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# GLEANINGS
IN
# BEE CULTURE

VOL. 4. 1876.

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# GLEANINGS IN BEE CULTURE

Or how to Realize the Most Money with the Smallest Expenditure of Capital and Labor in the Care of Bees, Rationally Considered.

PUBLISHED MONTHLY, AT MEDINA, OHIO,

BY A. I. ROOT.

Vol. IV January, 1876. No. 1

*In the Preparation of this Journal the following are the Principal Periodicals Consulted:*

**American Bee Journal.** *Clarke, and Mrs. Tupper.*

**Bee-Keeper's Magazine.** *King.*

**Bee World.** *A. F. Moon & Co.*

[*Also Bound Volumes of the former since 1860, and Files of all other Bee Journals that have been Published in America.*]

**American Agriculturist,**

**Prairie Farmer,**

**Rural New Yorker,**

**Country Gentleman,**

**Southern Farmer,**

**Scientific American.**

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**EARLY ITALIAN**

**QUEENS FOR 1876.**

I can send tested queens in the spring as early as the weather will admit. Also tested queens in strong nuclei of three full sized frames (17x9 inches) of comb, bees and stores. By purchasing these small colonies, all danger of losing the queen in introduction is avoided; besides they can soon be built up into strong stocks.

**IMPORTED QUEENS.**

"This is to certify that Dr. J. P. H. Brown, receives Italian Queen Bees through this office, imported direct from Italy." C. H. Buckley, Agent Southern Express Co.
Augusta, Ga., Oct. 11th, 1875.

During the season I shall receive invoices of imported queens, every few weeks, from a district in Italy that is said to contain the finest type of the Ligurian or Italian Bee. Send for circular to
DR. J. P. H. BROWN, Augusta, Georgia.

**HONEY EXTRACTORS!**

**Made Entirely of Metal.**

**No Wood About Them.**

**PRICES, $8.50 to $10.00.**

**Circulars with directions for use on application.**

IN ORDERING, be particular to give us *outside dimensions* of frame or frames to be used. As we have procured the machinery for making every part on our own premises, we can supply Gearing, Honey Gates, Wire Cloth, etc., etc. Bearings, Stubs' Steel—Boxes, self-oiling.
A. I. ROOT, Medina, Ohio.

P. S.—Be sure and give width, *under* top bar of frame.

**Our Photograph**

**MEDLEY OF BEE-KEEPERS,**

**Containing the photographs of over 150 of the Bee-Keepers of America,**

**SIZE, 11x14 INCHES.**

**Will be mailed securely packed for $1.00.**

**We mention below a few of the most prominent pictures contained.**

L. L. Langstroth; Mrs. Langstroth; M. Quinby; Capt. J. E. Hetherington; Dr. Hamlin; Adam Grimm; Samuel Wagner; James Bolin; Frank Benton; H. A. Burch; Prof. A. J. Cook; C. P. Dadant; G. M. Doolittle; E. Gallup; Mrs. Geiseler *nee* Katie Grimm; J. P. Moore; Chas. F. Muth; Mrs. E. S. Tupper; R. Wilkin; W. M. Kellogg; E. J. Oatman; Prof. J. P. Kirtland; A. J. Murray; "Scientific"; L. C. Root; S. B. Parsons; W. W. Cary, etc., etc.

It will be sent as a premium for 6 names for Gleanings, at 75 cents each, or for 4 names to Gleanings and Our Homes at $1.00 each. A. I. ROOT, Medina, Ohio.

KIND READER, if you are in any way interested in

**BEES OR OR HONEY,**

we will with pleasure send you a sample copy of our Monthly "GLEANINGS IN BEE CULTURE." Simply write your address plainly on a postal card and address
A. I. ROOT, Medina, Ohio.

## SUNDRY MATTERS.

We were very sorry to send out our index to our last Volume in the way we did, but really we had no choice except to do it as we did or have our Dec. No. very much delayed. If we don't do better in future we shall probably suffer the consequences, and it will serve us right too. We only mention the matter to let you know that we are fully conscious of our shortcomings.

◆

We are under obligations to Editors of *A. B. J.*, and *B. K. M.*, for advance sheets of report of Michigan Bee-Keepers' Convention; also for offers of space to reply to friend Heddon. We have only to say that we think too much space has been occupied already with the matter, and that we have no fears that friend H. will not get back into the "harness" all right, in due time, even if he is not replied to.

◆

The *American Agriculturist* has been published 34 years, and if it keeps up to its present standard—it has been steadily improving ever since we were so fortunate as to make its acquaintance in our boyhood days—it certainly will continue to be welcomed with joy by the most intelligent of our people for years to come. We shall be very glad to send it to any of our *subscribers* for $1,35, according to our clubbing rates, viz., $2,10 for it and Gleanings.

◆

The question of small type for a Journal has been frequently commented on by our readers, and we would be very glad indeed to use larger type, and more pages, did it not demand an increase in the price. While a few of our readers would perhaps cheerfully pay this increase, we feel sure that by far the greater portion would prefer the well filled pages, even if they be obliged to read a little slower. If we print your kind letters at length, as we know you are glad to have us do, it must occupy considerable space, and the smaller the type, the more of you can we hear from each month.

◆

We have neglected to mention that the *British Bee Journal* is a 32 page monthly, printed on beautiful strong strong paper, with a plain clear type, large pages, and a profusion of fine illustrations that would improve any of our American Journals amazingly; in fact friend Abbott seems to have a most happy faculty of making drawings illustrate exactly what he wishes to teach. We will send it, with Gleanings, for $2,50, post-paid, and we would be glad to receive a good number of subscriptions; but our friends should bear in mind that as much of the matter is only of local interest, and the industry has not as yet assumed the proportions that it has in our country, we can hardly expect it to be of the same value to *us*, as our own Journals. Most of the appliances used, especially the hives, are much more expensive and complicated than those we use, and many devices are in favor in England, that we have considered discarded.

◆

## Northeastern Bee-Keepers' Association.

The sixth annual meeting of the Northeastern Bee-Keepers' Association, will be held at the Stanwix House, in the city of Rome, N. Y., on the 2d and 3d of February, 1876. The first meeting will open promptly at 1 o'clock P. M., of the 2d. Papers of value have been promised by some of our most noted and experienced apiarians from abroad. Every effort will be made to sustain the national reputation which this Association has gained. Several members are expected to read essays, or prepare addresses. Come prepared to report accurately the season's operations. We wish to know the number of stocks kept, spring and fall, condition, kind of hives, amount of honey produced, box and extracted, wax made, remarks on the value of the honey season, etc.

Capt. J. E. Hetherington, President.
J. H. Nellis, Secretary.

GLEANINGS IN BEE CULTURE.

DEVOTED EXCLUSIVELY TO BEES AND HONEY

Vol. IV. JANUARY 1, 1876. No. I.

## WINTERING IN CELLARS, ETC.

FRIEND NOVICE:—Cellar wintering of bees is found in this locality, to be far the most economical method. Those that have been wintered upon their summer stand have been sadly decimated during the past three winters. We know of one instance in which one hundred and forty were lost out of one hundred and fifty. Quarts of bees would *boil* out of the hive and onto the snow, when the thermometer was down to zero. These hives had little or no upward ventilation, and the combs were invariably damp and mouldy next the honey board.

I have visited several apiarians within a radius of a dozen miles, and find several methods of culture in vogue. I found bees in hives in which woodpeckers had made great holes, and squirrels had actually made a nest in a vacant super. As a contrast, I visited an apiary where the Langstroth hives and frames are made with the utmost nicety, every nail countersunk and the hole filled with wax; and contrary to all theories of practical apiarians, every hive is neatly painted on the *inside*, and bees seem to find no objection to the plan. This apiarian winters in the cellar; and in the spring, carries his bees out and into the cellar many times, as the weather changes from warm to cold. The result of the season amply repays him for his trouble, for they store unusual quantities of box honey.

Another bee-keeper winters his bees in a small warm cellar, and when first put in, it is not unusual to find large clusters of bees on the outside of the hive. He is successful in wintering, but loses a great many by their crawling out and dying on the cellar bottom.

I found another gentleman who winters his bees, about 30 swarms, in a room about 7 by 9, double walled lathed and plastered, and immediately in the rear of the kitchen, the pipe from the kitchen stove passing directly through it. The stove is used every day for cooking for the family and other household work. If they show signs of uneasiness, he shuts them in their hives. He uses the common box hive with place for supers on the top. His bees, during the past season, have made a great amount of honey; one hive making over 100 lbs. of box honey. Having Mr. Heddon in mind, I asked him if bee-keeping paid with him. "Pay!" said he, "I guess it does." "Honey got that pile of wood, and part of my coal, paid a share on a piano, and many other things."

His bee room is ventilated by raising a window, which is provided with blinds and a thick curtain. No thermometer was kept in the room, so I can give no record of temperature.

Now, friend Novice, that you have given your Michigan friends a visit, please give your New York friends a call. There is not one of them but will give you a warm reception.

Honey is rather dull on sale at present. But little market developes for extracted honey, though box honey does not go begging long in our markets.

J. H. MARTIN, Hartford, N. Y.

## DIVISION BOARDS.

EDITOR GLEANINGS:—Mr. W. F. Patterson having urged me to give my method of using the division board, I comply with his request with pleasure; and premise by saying that I consider it one of the most valuable contrivances used about the hive.

In the spring, after I place my hives out of doors, I move all the combs to the back part of the hive, except what the bees can cover perfectly down to the bottom. This gives the bees a chance to go to the back part of the hive on warm days for the purpose of carrying the honey over. When the weather gets warm enough to open the hives, I examine the combs, and if they are strong enough I move the sealed brood outside, and place those outside partly filled, in the middle. And when the bees get strong enough I place empty comb in the middle. I am always careful however not to add more comb until there are bees enough to cover the whole well. One card is enough to put in at a time. I never feed bees in spring to make them raise brood faster if there is plenty of honey in the combs at the back part of the hive.

I think this method far superior to that of feeding liquid sweets. They need, however, to be watched closely to see that they do not get out of honey. If the weather is very cold the division board should be moved back and a card of honey put next the brood. I use the Gallup hive with twelve frames. I also reduce the combs to five and from that down to one according to the strength of the colony. When the weather is warm, I look after them often to ascertain if the combs can be placed so as to give the queen a better chance to lay. If they are strong enough to cover two cards when setting them out in the spring, I can build them up into a good colony by the time white clover comes into bloom. I have wintered many nucleus swarms with only four combs, by using the division board. My hives are 18 inches long, 12 inches wide, and 12½ inches deep from the rabbeting down to the bottom board, counting inside measure.

I have mentioned that I use the Gallup hive, but the division board can be used in any other as well. I consider the use of the division board of very great importance in building up colonies, and hope for the benefit of bee raisers, to see the detailed experiences of others, with reference to its value, in the columns of GLEANINGS.

G. W. DEAN, River Styx, O., Nov. 25th, '75.

## THE DISCOVERY OF THE EXTRACTOR.

THE Cincinnati *Commercial* of Nov. 25th, has quite a spicy article on the honey trade, and from it we glean the following interesting item.

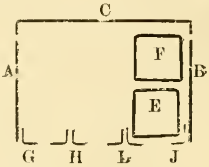
> This valuable machine had its origin wholly in an accident, like many and many another valuable invention. The honey pump was discovered in this wise—(it is a pretty story):
>
> In Italy there chanced to dwell one Major Von Hruschka, a German, and one of nature's bee-keepers. One day Major Von Hruschka was in his apiary, and his son chanced to be there too. The boy carried a tin pail, which had a string tied to it. The Major gave the boy a piece of honey, putting it into the tin pail. Then the youth, boy like, began to swing the pail with the honey in it around and around in a circle, holding it by the string. A moment after he had ceased this amusement, the Major happened to look again at the piece of honey. What was his surprise to find that the honey was all drained out neatly and perfectly from that side of the comb which had been on the outside of the circle, as the boy swung the pail around by the string! The Major thoughtfully turned the comb over, and bade the boy swing again. This time the other side of the comb was all drained out, and that night Major Von Hruschka went to bed thinking. He thought and thought and experimented till he gave bee-keepers the honey extractor, which whirls the honey out of the comb by centrifugal force, leaving the comb to be filled again by the bees, and the liquid honey clean, pure and beautiful, to be eaten by people.

The above is quite probable, and any one who doubts its verity should make the experiment.

## Honey Column.

WE have have been fortunate indeed this month, in receiving a most pleasant visit from our friends, Muth, of Cincinnati, and J. S. Hill, of Mount Healthy, O. The very best argument we can give in favor of liquid honey and the extractor is that Mr. Muth will pay 15 cts. for a really nice article of clover honey; if any of our readers have any such on hand that they are unable to dispose of to better advantage, they had better send friend Muth a sample by mail. Our own is now going off so briskly, at 18 cts. in its candied state, that we shall probably have none to dispose of by the barrel. We simply take the head out of the barrel and scoop it out in chunks like butter; if you take a flour scoop and work it back and forth patiently while you bear on with a steady pressure, you can with little trouble put it up for customers in quantities to suit, and whether they take it by the plate or pailful, we find it less trouble all round than going to the expense and bother of jarring. When it is desired in its liquid state in jars, of course we furnish it at the old rate, 20 cents. Mr. Muth informs us that he only puts the very finest in jars, and that is doubtless the secret of his having built up such a large trade on extracted honey. He strongly urges the importance of keeping each kind of honey by itself; and to do this the apiarist must keep careful watch, and extract all the honey just before the bees commence to forage on some new blossom; for instance, when the linden first commences to yield, it may in 24 hours be so mixed with the clover honey in the hives, as to render what would have been a ton of pure clover honey, only a mixed article that will have to be sold from one to five cents lower solely on that account .Have your clover a pure article, that it may be sold to those preferring that, and the same with linden, etc. As an illustration of this point, we will mention that we have also had a most pleasant call from C. R. Carlin, who hails alternately from California, Louisiana, Florida, and we hardly know where next. Well, friend C. has, this past season, secured in La., between two and three tons of beautiful honey in section frames, but sad to relate, when the main part of the crop was in fair condition to remove from the hives, he was so busily occupied in making more of those cunning sections, with a foot-power buzz-saw, that he really could not take time to remove the filled ones just then. Alas for procrastination! all at once, the bees began bringing in honey from a species of dog fennel, and aside from spoiling the looks of his white honey, the new crop had an intensely bitter taste, so bad indeed that much of the honey was given away to any one who would take it.

Mr. Carlin also gave us some excellent hints on the section boxes; these with the hints we gleaned while in Mich., together with some ideas borrowed from friend Moore of Binghampton, N. Y., have resulted in the following section boxes that we have designed especially for the Simplicity and Standard hives.



Let A, and B, represent the front and back of a Simplicity L. hive, or rather the upper story of such a hive without the frames. C, is the cover, and G, H, L, and J, are folded tins that support the section boxes E, and F, that they may all be lifted off with the upper story, when an examination is to be made, to see that the queen has room to lay, or to attend to the queens in case of swarming, etc. The tins nailed to the ends of the hive are simply strips 1 inch by 14, folded lengthwise at a right angle. H, and L, are similar pieces, except that they are made double and are 1 inch longer; they are soldered together at the back, and ½ inch of each end is bent at right angles, that they may be nailed securely. These tins are nailed so low that the sections come within ¼ of an inch of top bars of the frames in the lower hives. The frames are to have their top bars scraped off clean that there may be no "attachments" formed between them and the sections. The sections are made of pieces 5¼x 1¾x3-16 for the sides, 5¾x1¼x¼ for the top and bottom. The former are nailed into the ends of the latter making a frame 5¼x6⅛ outside dimensions. Before the tops and bottoms are finished, they are dropped on the saw in such a manner as to saw a slit in the middle of each to within about one inch of either end; this is to allow us to furnish the Italians with a broad ladder of comb foundation exactly in the centre of each frame. If a saw that makes a sufficiently broad cut be used, the comb foundations can be put in very rapidly, for after a strip is pushed through, we have only to run a hot iron over the tops of the sections to make these guides a fixture. When the bees are working in the lower tier only, we will use the quilt to cover the upper openings, and when these are raised up, the quilt is placed over all, there being just room enough left under the cover for it. A single story will hold 48 of these sections, holding from one to two lbs. each.

If desired, we can furnish these sections for one cent each, ready to nail, or if furnished with the comb foundations, two cents. A complete sample will be sent by mail for 10 cents. A one story Simplicity hive arranged with the 48 sections and comb foundations, $2,00; a two story hive complete, frames below and sections above, all ready for the bees, $3,50; Standard hive, same price, i. e., the price will be the same whether arranged for comb honey, or for the extractor. We only offer these as samples, for every bee-keeper should be able to make his own at a much less expense, aside from the saving in freight or express charges. From the manner in which these guide combs are fastened, these hives can be shipped as freight without injury.

*Dec. 20th*—The finest samples of honey it has ever been our lot to behold now graces our honey table; they were sent us as a Christmas present by Mr. John Long, of N. Y. If our readers would like a sample of pretty jars with glass covers, and an idea of the way they make goods attractive in the large cities, they should get a jar or two by express of Mr. Long. The honey is the mountain sage of California, and if every one can not agree with us in regard to the flavor, they certainly must in regard to appearance.

The comb honey is of a delicate whiteness and regularity, that makes one wonder whether the California bees are not a notch ahead of our own in mechanical skill. Mr. Long also sends us some beautiful cakes of bleached wax for ladies work boxes.

We are also indebted to friend Muth, for taking the lead in using honey in cookery; in fact he has made Blue Eyes a present of a whole box of "honey cakes." They are made quite rich with linden honey, and prove quite acceptable as confectionery.

We have also had a pleasant talk with Mr. Lindley, who reported in regard to Mr. Gallup's bees, and his 8500 lbs. of honey, on page 131, Vol. III. The beauty of the whole matter is that friend L., has sold all but about 1500 lbs. of the crop right at home, or at least in the vicinity of Mitchell, Iowa. The secret of it is that friend L., has been in the market garden business, and has been putting his honey before the people where he is known, just as we have so long advised. He has nothing to do with selling honey on time to irresponsible parties, and has not sold a pound less than 15 cents—in fact has had 20 cents for all sold in less quantities than a barrel at a time. At present he is selling by far the larger part of it in its candied state, cutting it out of the barrels with a clean spade.

## GALLUP'S BEES.

MR. LINDLEY, is decidedly in favor of Gallup's larger hives, but says he would have them in one row of frames, and that from 25 to 30 Gallup frames are as many as can be used to advantage. As the Gallup frame is so much smaller than our Standard, such hives would be of very nearly the capacity of our Standard, or our two story Simplicity. Outdoor wintering Mr. L., thinks to be quite unwise, even with the large hives, and states that Gallup had losses enough during his last winter with them, to satisfy him that they had better be housed in that locality. The double walled hives that Gallup recommended, Mr. L., also pronounces no better than those with single walls, and in regard to the long hives being non-swarmers, he states that they have been the very first to to swarm. If we remember correctly, the whole 18 large hives that he purchased of Gallup, swarmed before any of his smaller or 10 frame hives. When we state that the large hives almost invariably built drone comb, we believe we have gone over the whole ground; unless it be to state that the labor of uncapping was much greater in the small hives, for the large ones ripened their honey equally well and left it unsealed, while the others would have the combs sealed clear to the bottom. Of course it is a task to put the heavy hives in the cellar, requiring two strong men to lift them; but when we bear in mind the prodigious yields of honey they give, it is not so hard after all. In regard to making use of artificial heat in the spring, Mr. L. thinks the very cheapest way to keep up the proper temperature is by these same powerful colonies, for no frost can by any possibility penetrate to the center of their brood nest. As an illustration, he narrated how he had put a good colony near the kitchen stove, allowing them to fly through the wall, but although they worked well all through the spring months, they were beaten in swarming by one of those irrepressible, long Gallup hives. When we bear in mind how much easier it is to let the bees do the work themselves, we confess there is not very much to encourage this fussing with artifiial heat, even if it does succeed occasionally. It is true we must have extra queens to keep up such a population, and we must also have a supply of food in proportion, for them to winter on. Our visitors all have expressed themselves much pleased with the house apiary, and Mr. L. thinks it would be a grand place for the "big" colonies. These large hives are in striking contrast with Hosmer's "quarts and pints," and perhaps it were well to mention that visitors report Hosmer's apiary to consist of more hives containing moth-eaten empty combs, than those containing bees. As both Hosmer and Gallup refuse to be classed with bee men at present, we shall have to content ourselves by drawing such inferences as seem warrantable.

## KATIE GRIMM NOT OUTDONE.

DEAR NOVICE:—We are surprised to find that you and some of your kind readers think 12000 lbs. of honey an extraordinary day's work with one extractor. Mrs. Larch did only the extracting, while I worked only in the apiary, the hired man carried the frames back and forth, the hired girl did the uncapping and deserves credit for the rapidity with which she did her work.

Our method of operating may be described thus: we had two buckets and two wire strainers made for the purpose, one fine one to fit the buckets, the other a little coarser to fit the top of this, the honey being perfectly strained as it ran from the extractor. The barrels were provided with a funnel of the largest size so that very little time was consumed handling the honey. We commenced operations at 8 A. M., the hives containing 18 Langstroth frames hung 1⅔ inches apart from centre to centre, the cells being all lengthened out clear to the bottom. Combs having much brood were not extracted, as the honey was too thick to extract without injuring the larvæ. Combs were borrowed from the first hives until we got enough to replace the full combs with empty ones, as fast as removed, and keep all hands at work. Several very light boxes holding ten each were used for carrying frames. We intend another year to run the honey directly into the barrels, by the aid of a funnel made to fit the strainers, and if our bees do not die but gather honey as in former years, you may hear of something still more wonderful, provided you will send us an extractor with larger molasses gate. We had to wait for the honey to run out. We used the Winder extractor last year and got only 765 lbs. in one day, it did good work but runs heavily. Mrs. Larch will not use it at all.

It might be well to inform you that our location is a poor one, according to Amateur, only a short distance from one abandoned by him in Missouri, and that our apiary was built up while his was being sadly depopulated. And should he obtain the largest average of anyone in the United States in 1876, we will promise to beat anything he ever did in Missouri by 50 per cent, and yet we know but little about bees and their management, but according to our experience we had rather be at a little trouble to winter and spring our bees without loss, than to abandon our cheerful home with schools and churches, with the best of society and all the comforts one could wish, for that desolate region in California adapted only to bee-keeping.

E. C. L. LARCH, Ashland, Mo.

As our friend "Katie" not only did all the uncapping, but removed all the combs from the hives, and in short, took entire charge of the whole apiary meanwhile, we shall have to think her yet ahead. See page 111, Vol. III.

## CALIFORNIA.

FRIEND NOVICE:—My friends urged me to desist from shipping bees from Iowa to California; even you suggested that I had best buy of Harbison, here. I do not object to his stock, judging from what I have seen, but I have a streak of contrariness in my make up that seems to relish running counter to the most positive convictions of others, when I feel sure they will conclude in the end, "he understood what he was about better than we had thought."

So far I have accomplished about all I anticipated in shipping. The whole cost of bringing my bees the 2100 miles, was only about $2,25 per colony, and it would have cost me nearly that to have fed them to a condition for wintering in Iowa, and then no one would there have risked more than $5,00 per colony in the fall, on colonies I suppose as good as Harbison's $15,00 ones. I had gone to much pains to get me up a good stock of Italian bees in the kind of hives I preferred to use, having some imported queens among them.

Many have spent more money in shipping a few hundred miles along the coast here. It is true that owing to hot weather after starting, my bees worried themselves until there were only a few left in each colony.

I had put a division board in many of my hives so as to take two queens to the hive, only three or four of these apartments had failed on arrival, but scarcity of honey (I left only honey enough in the hives to last the journey) and the confusion on first setting out here caused the loss of many queens. However, I had enough left to keep up my number of colonies. Only three or four had any brood in their hives, and I find that strong stocks here have generally ceased breeding; but thanks to California weather and my out-door general feeding of 200 pounds five cent honey, diluted with four parts water, my stocks have in the last 18 days produced me from 15 to 80 square inches of brood per hive, and are getting plenty of pollen; but you may be sure the bees have to spread themselves to cover their brood.

The first rain that had fallen here for several months came on the 2nd, and now the whole country, mountains and valleys, is a mat of verdure of Altilaree, which we hope will commence to yield bloom for bees in the fore part of January. And now, with feelings of hope and suspense, I shall aim to adapt myself to the peculiarities and possibilities of California. R. WILKIN.

San Buena Ventura, Cal., Nov. 28th, '75.

## OUR OWN APIARY.

DEC. 2*d*.—Hoity toity! The mice did get into our house apiary and we were so foolish as to wonder how they c-o-u-l-d get in, before we thought of the 18 two inch auger holes close to the ground. Of course we at once proceeded to make some "mouse guards." As an entrance large enough for a single bee to pass comfortably is all that is needed in winter—at least for bees in a house apiary—we simply cut pieces of galvanized sheet iron—this never rusts by exposure—2¼ inches square, and then punched two 5-16 holes so that they cut each other enough to make a nice passage for one bee. A single galvanized tack will hold these in place when the lower edge is driven slightly between the door step and the building. No mouse will ever attempt to gnaw metal, and they can be quickly removed when the bees need a larger entrance in the working season. Our reason for disliking any kind of a permanent slide or fixture to contract the entrance, is that we wish the entrance free from any kind of trap to be covered with propolis or spider webs, for the latter are a great trouble to us. As we have them now, we can take our broom and sweep the entrances clean and tidy clear around the building in a very few minutes. We should state that before putting on these metal mouse guards a thin slip of pine 4x1½ inches was slipped into each entrance; when the space above this was filled with wool, we had an entrance beneath it just right to allow a bee to drag out a dead one, or any other rubbish; and of course the hole in the metal was so made as to come opposite this opening.

Now for the working of the house apiary during a severe freeze; the entrances were filled with the wool yesterday, and last night we had a heavy frost. Large bunches of frost were found collected before each entrance, the most in front of the heaviest colonies, showing plainly that their breath passed out from these holes; but no frost was to be be seen collected on the interior of the entrances. The inside of the house was just about at the freezing point, and everything is dry and healthy, not a dead bee to be seen any where, yet in our old bee-house the dead bees cover the floor so that one cannot find a spot to step about even on tiptoe, and it is scarcely two weeks since they were put in. This is not unusual, for when there comes a warm day many will crawl out and get lost in the darkness, whereas in the house apiary as they are in their usual home, they can *look* out-doors and go back satisfied as often during the winter as they feel inclined; and yet we hope to keep the temperature as warm as, say some of the Southern States—certainly much warmer than any form of out-door wintering.

*Dec. 3d*—It has been a fine day and the bees have flown nicely; those in the open air first, and the occupants of the house apiary afterward. Those on the south side flew but little before those on the north, as it takes some time for the temperature to change inside of such thick walls. There were a few dead bees bro't out of the house apiary after all—perhaps a dozen per colony on an average, the most from the heavy colonies of course; these undoubtedly would die of old age, but in our old bee house we swept from the floor a two-quart pan heaped full of dead bees, and yet they have been housed scarcely two weeks. This would amount to more than half a tea-cupful of bees per stock. We don't know why it is, but our bees always have been in the habit of getting out of their hives in the bee house when we have a very warm day, yet those in the open air seem perfectly contented so far as we can see, and the very strong colonies lose no more than those in the house apiary; the weaker ones lose by bees freezing that are left between combs that are outside the main cluster. The colony with nothing over them is as bright as one could wish, and they have lost very few bees indeed from the freeze. The only one that had the burnt candy has nearly perished, the few bees that are alive looking damp, and having the same appearance as with the spring malady; it may not be the candy after all, for we had a strong colony die in a similar manner in the fall and winter of '73. To test the matter we have taken the candy away and given them good combs and stores.

*Dec. 6th*—We are still having such warm weather that we can but feel uneasy about the bees in the bee house, tho' those in the house apiary are all the better for it and seem as happy as can be, cleaning out their hives, bringing stores nearer the cluster and getting all ready for the next freeze. While the latter presents an orderly and pleasing appearance with all the implements in their places ready for use, the bee-house looks anything but inviting with

with the floor covered with dead bees, especially when more are escaping from their hives every time a ray of light is admitted.

## HOUSE APIARIES.

YOU want to know if my houses had been successful before they came into my hands. The gentleman I bought of, cleared nearly $1100. in one season, and did not get the bees until the middle of May. If I do as well next year, I will make more than 100 per cent on my investment. I don't see why there need be so much prejudice against house culture; it is undoubtedly the most convenient, and much the easiest way to keep them secure in winter. In extremely cold weather, hot irons can be introduced in such a manner as to increase the temperature of the houses, and their peculiar construction causes them to retain the heat for a long time. As for feeding, it can be done by the house system with one-half the trouble taken in any other way and be entirely secure from robbers.

I know but little about bees yet, but am inclined to believe the opposition to the house system is flavored somewhat with old fogyism—a little on the principle of going to mill with the grist in one end of the bag and a "*dornick*" in the other. I shall be glad to hear of any really serious objection to the house system, that is not counterbalanced by the benefits.

I have an idea that the warmer I can keep my bees—so as not to *heat* them—the less they will eat and the more probable I will be to get them safely through the winter; therefore I am going to put some *protection* under the lids of the hives; the straw mats used by some are hard to get, and I am going to use a kind of my own—the lining used under carpets, is composed of two thicknesses of heavy paper with a layer of cotton batting between. I happened to have enough of this left from furnishing my house, to make one mat for each hive, which I will put under the lid or top, on the frames. Do you think this will be enough protection?

ISAAC A. SMITH, Hartwell, O., Nov. 3d, '75.

Your paper and batting will answer very well, but do you not think it would be much cheaper to have your whole house protected from the frost rather than go to so much time and expense with each individual hive? If we are correctly informed your patented house apiary—Faulkner's—leaves the building entirely unprotected underneath. If we are going to try to keep out frost, it is a very important matter to have a good warm cellar underneath our building.

DEAR NOVICE:—Don't you think those 36 entrances to your house apiary will all "draw like stoves" when the weather gets cold? see GLEANINGS page 1, Vol. III.

I am not making fun for I am greatly interested in all your experiments, and we all have been benefitted by some of them. Last spring when my bees began to die (or at least to disappear mysteriously for the hives became depopulated, and none were left to tell the tale) old wise heads began to say "that's what you get by following 'Novice,'" but the next thing every body's bees were going the same way rail-road speed, box hives and all.

A few weeks ago we were about going to work to convert our wintering house into a "house apiary" *a la* Novice, but then came GLEANINGS for Nov. and Novice said "can you not wait until we have given it a test for a whole year?" And as we had prepared our bees for winter, by extracting stores, where there was much unsealed, and cutting holes through all the combs. (use Standard hives with good straw mats of our own make, thanks to GLEANINGS) and as the bees had a good fly on the 12th inst, and gathered pollen to some extent, the next morning early, before it began to snow, we put a part in the bee house, leaving cover of hives off, and left a part out doors on summer stands, with an air passage between mat and cover according to Mr. Muth. We also packed the space back of the division board with dry wheat chaff.

We did not get much honey this season for we had to build up again and buy some bees to start with.

ILA MICHENER, Low Banks, Ont., Canada, Nov. 29, '75.

Were we to put a ventilator in the ceiling of our house apiary, the entrances to the hives would assuredly "draw like stoves" but on the contrary, the room is as tight as we can make it except the entrances. In this respect we have gone directly contrary to the patented house apiaries; as yet we discover no want of ventilation at all, the cold air working in slowly through the wool in the lower ones, and working out at the same rate through the upper ones. The direction of the wind also having something to do with it.

*Dec. 20th*—We have had weather 3° below zero, and are delighted to report that the house apiary has been all through it just as dry as a chip. Not a particle of frost was to be seen on the walls, and only a little on the inner glass doors, and although we haven't a sign of a "ventilator" the air inside is as pure and sweet as it is out-doors; in fact it is simply quiet natural out-door wintering—entrances always open—and yet the interior of the house never goes much below the freezing point.

On what part or parts of Faulkner's house apiary does he claim a patent right? I see nothing in the description of it in *A. B. J.*, that has not been used by others.

R. MALLALIEU, Wrightsville, Pa.

We are not able to discover any thing either in Faulkner's, or Coe's house apiary that has not been in use.

In the *A. B. J.*, for Nov., M. J. Stibbs, makes quite an error where she states that we received the necessary instructions for building our house apiary of Mr. Coe—*her brother*. Mr. Coe gave us no instructions but on the contrary ridiculed our idea of two inch auger holes and dispensing with ventilators; our building was made for another purpose, years ago, as our readers are aware, and there can be no possible need of buying a patent to build such a one as ours.

## Humbugs and Swindles

### Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

MITCHELL, is still at work, and though we have had frequent reports of him, we have not thought it best to devote the space necessary to posting our readers on each one of his new pretexts for obtaining money. His latest, however, needs mention, as several of his victims were at the National Convention. He now gives a swarm of "full blood bees" to each of his pupils, and so they are sure of some equivalent for the $30.00, but alas! he informs them the bees cannot be shipped before spring; so all they have after all is the old story, his *promise*. We would like to hear *some* good of Mr. M., and if any one has ever heard of his sending a single queen, or bee, as he so constantly promises, we hope they will let us know of it at once.

SWARMING IS CONTROLLED.

No swarms issue unless desired, but the bees all work in boxes storing surplus honey instead of swarming out.

TWO HUNDRED POUNDS OF BOX HONEY

from *one* swarm annually in localities where *forty pounds* by other methods is considered a *great* yield. No losses in winter. Bees wintered safely on their summer stands in the hives they occupy through the summer Feeding profitable and safe. Complete and comprehensive instructions given in this book on *every point* connected with the *successful* and *profitable* management of bees. The book will be sent post paid on receipt of one dollar.

Address, MRS. L. E. COTTON,
West Gorham, Cumberland Co., Me.

All for $1,00! to be sure we sent the money the minute we got the circular; and we are going to look the book through carefully and whatever is valuable shall be placed before our readers in next month's GLEANINGS. As this same person sold common queens for $5,00, and a receipt for "bee food," for $10,00, two years ago, we perhaps had better not place too much faith in so many promises for $1,00. If there is anything new in "bee-dom" we want it for GLEANINGS of course, and we will furnish the money for all the receipts afloat, if they look at all plausible.

CANDY.

Make it yourself and save half your money, or make it for sale and have a good income. Receipts for making twenty-five of the best and most popular kinds of candy sent to any address for 25 cents. You can save the price of the receipts in making two pounds of candy. Address T. O. Osborne & Co., West View, Cuyahoga Co., Ohio.

This one may not belong in this department; we have sent the money, and when the book comes—it should be a book for 25 cents—if worth the price, we will give Mr. O. & Co., a free advertisement. At any rate our readers shall have the full benefit of it.

Gleanings in Bee Culture,
Published Monthly,
A. I. ROOT.
EDITOR AND PROPRIETOR.
MEDINA, OHIO.
Terms: 75c. Per Annum.
[*Including Postage.*]
*For Club Rates see Last Page.*

## MEDINA, JAN. 1, 1876.

And he shall be like a tree planted by the rivers of water, that bringeth forth his fruit in his season; his leaf also shall not wither; and whatsoever he doeth shall prosper.—Psalms: 1, 3.

◆

BY mistake, in our note last month, we put the price of the "Manual of Bee-Keeping" $1,50, instead of $1,25, which it should have been.

◆

WE feel sure that our readers will rejoice with us, in a piece of good news that comes all the way from Green Bay, Wis. It is a message to "Blue Eyes," not from "Katie Grimm" but from a "wee little Katie" who we trust may in due time win as warm a place in the hearts of American bee-keepers as has her mamma.

◆

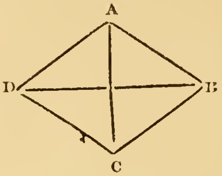
### CANDY FOR BEES.

After spoiling 20 lbs. of sugar in trying to make our own candy, we decided to pay our confectioner 2 cents per lb. to make it for us. But as such a course would not help our readers, we mustered up courage enough to try it again, and with Mrs. R's help we succeeded beautifully. The secret of preventing its burning is that she insisted on having the kettle kept *on the top of the stove* after it was about half done. Take 4 lbs. of coffee A sugar, one pint of water, and one teaspoonful of cream of tarter; boil as above until it is hard and brittle when dropped into water. Pour into long shallow tins to cool. and *cool quickly*. If worked it will make very nice cream candy.

◆

## HOW TO MAKE ARTIFICIAL COMB FOUNDATIONS.

EVERYBODY knows that the cell of the honey comb is six sided, but very few, even among our readers we fear, are aware that the bottom of each cell is composed of three beautiful lozenge shaped plates. As we shall have much to do with these wonderful lozenges, we will remark that each one is bounded by four equal lines as seen in the figure.

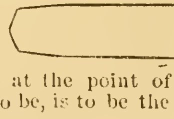


Now the width, A, C, bears a most singular proportion to the length, D, B, and if you will be attentive we will try and tell you just what the relation is. If we assume A, C, as one side of a square, D, B, will be exactly the diagonal of this square, and the shaped cup that is formed by uniting three of these lozenges, is the solution of that wonderful problem in mathematics, that we have all read so much about, but want of space here compels us to direct our readers to page 150, Vol. II, of the *American Bee Journal.*

As we want to be exact in our tools for copying the work of the honey bee, we had better make a large model of the bottom of the cell; and by the way, it will be interesting for every bee-keeper to have such a dodecahedron—figure with twelve equal sides—as a curiosity. Get a wooden ball of some kind, those to be bought at the toy stores for a few cents will do, and fit into a lathe so that you can draw a perfect equator on it with a pencil. Now space off this equator accurately into six equal parts, and draw lines from one pole to the other passing through each one of the six points laid out in the equator.

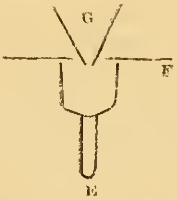
Measure off the distance at which your dividers are set, and add 1·5 to it, then draw lines parallel to the equator—one on each side—and such a distance from it that they are distant from each other the space you have set your dividers. Now you are to make six flat faces on the equator by cutting out the wood between the parallels and the six meridians from pole to pole. With knife and file face down until just the crossing of these lines remains of the surface of the sphere. We now have a six sided cylinder with rounded ends; these ends are to be faced down to three of the lozenges mentioned, and our guide for doing it, will be taking the pole as one point, and each altenate point used in dressing down the other faces; the idea being to give the figure twelve equal faces.

Now ye bright mechanical geniuses here is work for you. If you are not in the habit of doing fine, close work, you need not make the attempt, for we are to march boldly into the very work shop of nature herself. Get a piece of Stubs' steel rod, just $\frac{1}{4}$ inch in diameter and about 4 inches long, and set it so as to run accurately in a lathe, then with a fine, sharp turning tool turn the end of it as in the annexed diagram.



The angle at the point of this punch, for punch it is to be, is to be the same as that at the poles of our dodecahedron. When it is nicely turned up and smoothed with a very fine file, it is to be laid out into six equal parts by lines drawn lengthwise of the punch, and to space these lines equally will be one of your hardest tasks. With your dividers space the largest part of the wheel on your lathe head, or the chuck, as is most convenient; as this is large, you can do it with comparative accuracy, and then it will be an easy matter by means of these points, to revolve your lathe head 1-6 of a revolution, marking the lines on the punch at each position. Now, with a very fine flat file cut away the steel close up to the lines, but be careful that you do not file the lines away; in fact you had better let them be just visible with a magnifier after the punch is ready to polish. Finish the point in the same way, leaving the exact centre in the end just visible when finished. This filing is a very difficult matter, and you want some of the very finest jeweler's files and a fine oil stone to remove the file marks, in finishing. File first in one direction and then across, and by watching the lines left, you see where your file is cutting. You can at any stage of the work test it by driving your punch into a block of lead and pouring in type metal—in fact the types thus made would be all that is wanted, could we only cut them off squarely and of an equal length.

As we are going to need several thousand of these type, to make dies for a whole comb, we can not afford to waste much time on each individual one; in fact, they must not only be made perfect at once, but they must be made rapidly. The lead gives very nice impressions but is dulled in time by use; we will therefore use copper for our matrix, as it is called. The copper rivets to be had at the hardwares are just the thing, and those we have, answer finely without any annealing; but if they make you trouble by breaking, you can first heat them red hot and quench in water. Drive your punch into your block of lead, and then set the stem of the rivet in this hole; now place your finished punch exactly in the centre, and by a series of blows from a light hammer, cause it to sink into the copper so that the sides of the rivet rise like a cup around the punch. To finish it you will need a smooth tapering hole through a piece of steel, and the matrix, punch and all is to be driven through this. Two or three holes of different sizes may be needed. Should you find the copper a fixture on the end of the punch, you need not be alarmed, for if the punch has the taper we have drawn in the diagram, it can be got off, but it is first to be put in the lathe again (by the way, the punch should have been marked so as to be put back in precisely the same position in which it was turned) and a groove turned where the copper is to be cut off; we make the types just ¼ inch in length. When our little cup is cut off it is to be ground flat on its face with an oil stone and a very thin piece of steel—a bit of clock spring—is to be ground accurately to fit it. In this a hole about 1-8 of an inch is to be drilled to admit of the point of a small steel funnel; this funnel can be made by driving one of your lathe centers into a piece of clock spring while it is red hot. The diagram will explain the whole.



E, is the matrix, F, the steel plate, and G, the funnel which is provided with a handle, and stiffened by a frame around the top, so that types may be broken off by pushing them through a hole in a steel plate and bending sideways. That they may break off easily, the the hole to admit the melted metal should be as small as will give a clear type. The plate F, is quite important, for by pressing G, hard into it, we insure a true flat base for the type to stand on, and they must all stand upright on "their own feet" like all good citizens. This plate is loosely fastened to G, but must be free to adjust itself flat on the matrix.

We need hardly say that these little bits of shining metal are to be stood upright on a level table—marble is the best thing—and that their faces are all to be turned in one direction. Some of them will very likely refuse to stand up plumb, unless you are a better workman than we are; but these are just as good only they are to be sorted out and kept for the upper tier. The bottom die is to be made of only the best and when you have made enough for your frame, carefully cover them with plaster of Paris, having first put supporting strips across the frame that holds them together, and when it is set firmly it is a simple matter to turn it all over and solder it in one solid piece with a common soldering copper. When this plate is washed off clean we are ready to set the upper tier directly on these, that we may have a perfect fit; solder as before.

Now for the "wax works!" As our dies are all tapering we need have no fears of the wax sticking, providing we keep the plates well covered with soap suds made thick, such as burnishers use. To get the sheets of wax ready for making the impressions, simply dip a board in cold water, and then in melted wax floating on a vessel of water. If you want very thin sheets, make the wax hot, if thick, have it colder, or dip it in one or more times. With dies made as we have described we have made cells deep enough for the queen to deposit eggs. We have as yet only made a small pair of plates, but we are now at work making a pair for sheets for a full Langstroth frame.

We can not tell as yet, the expense of these plates; they are advertised in the *British Bee Journal* for 2½d. per square inch, but from what we can gather they are no larger than those used by Mr. Long. We hope to be able to furnish them for about $25,00 for almost any sized frame. We have made a multitude of experiments, and know of no cheaper method of making good dies, than that given; nor do we know whether the same ground has ever been passed over before. We learned from Mr. Wagner that he used types for making his sheets, but nothing further, nor did we learn why he failed in getting the types to work satisfactorily. Use a common copying press.

## VARIOUS ITEMS.

MR. E. A. WALKER, quotes prices for honey in *A. B. J.* Price for white clover in boxes 20@25. Strained 8@16. Quotations in N. Y. *Times*, same for box honey, but for strained 12@14. Quotations in N. Y. *Witness*, white clover, box, 25@28; *extracted* (calls it by its right name) 15@18. I should like to know what is the cause of this great variety in prices, especially of extracted honey.

J. H. Martin, Hartford, N. Y., Dec. 21st, '75.

Humanity, as we all know, has a queer way of taking sides on almost every question that arises, and queerest of all, they many times, in an argument, strenuously adhere to a course that does themselves injury, and no one else good. We fear our friends are, some of them, doing this in regard to honey; honey buyers certainly know the difference between strained and extracted, and they must know that the transactions in the latter are assuming a magnitude the former has never known. Friend Carlin took the trouble, while in N. Y., to visit the markets, and from his statement we gather that *nice* honey brings by the barrel, just about what the *Witness* quotes it, and that it is retailed at 35 to 50 cents; oftener near the latter.

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The old bees, like old men, can't stand much cold, and are kept on the outside of the cluster, the young ones are in it crowding the old out. I have known young bees, those that took their first flight in March, to be frozen solid for a week, and when carried in and warmed, they all came to life and flew about the room lively as ever. Old bees chilled over night will never come to life again. This idea will give you a clue to spring dwindling.

J. L. Davis, Holt, Mich., Dec. 20th, '75.

Now friend D., you certainly have made *one* mistake if you mean to say that any bee can ever come to life after having been really frozen. A single bee will live from 24 to 48 hours in a dormant state, to all appearance dead, if the temperature does not go lower than somewhere between 30 and 40°. If they are not warmed up and fed at the expiration of about this time, or should remain out during a freeze, they are dead past all human power of resuscitation. Now when bees are massed together in a cluster they keep up an animal heat that keeps the whole cluster above freezing, and this heat is kept up some hours, even after they have exhausted all their food and are to all appearance dead; and they will even stand a zero freeze in this condition and many of them revive. But life is not entirely extinct as is proven by the fact that if they are left too long in this condition, say as much as three or four days, they are hopelessly dead. This is our opinion after making some experiments to test the matter; if we are wrong, our readers will doubtless correct us.

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Have you ever in your experience had queens that laid worker eggs and hatched worker bees in drone cells. I had one this year that laid in top story and filled it with brood, and two-thirds of the brood in the drone comb was worker. I had, several years ago, two queens that did the same thing on a smaller scale, in the lower story or brood apartment, as there was not much drone comb in either hive; but this summer three-fourths of the upper story was drone comb and nearly all, as well as the lower story, filled with brood.

R. R. Murphy, Fulton, Ills., Dec. 21st, '75.

We have never had such a queen, but they have been reported; we would like some of that kind amazingly. They would be equal to the breeds of poultry that never sit.

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My bees worked on rape on the seventh instant. Rape stands first best of any honey plant I know of.

J. Pratt, Mallet Creek, Medina Co., O., Dec. 21st, '75.

I have been informed that if bees are artificially divided without any attention being paid to queen cells, there will be no danger of after swarms, provided there are not more than 630 square inches of comb in each part. Is this to be depended on, or is it even usually so?

As black bees are smaller than Italians, will there be any danger of their raising drones on wax comb foundations made for Italians?

Henry A. Sprague, Charlotte, Maine.

Your rule is certainly not to be depended on; in fact reducing the size of the hive would be apt to make them swarm all the sooner, if they should become crowded with bees, and even if this did prevent swarming, you would cripple the powers of your queens by keeping them on so few combs.

There is so much difference in the size of drone and worker comb, that there will be no danger whatever from the wax foundations. The latter are so much more regular in size than any natural combs, that they really furnish no cells as large as many usually found in almost every frame of worker comb.

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How soon will bees kill a queen after she is released from her cage, if they do not except her?

They may sting her instantly, and they may enclose her in a ball of bees, in which condition she may live 24 hours or more; and sometimes they get through this ordeal and do good service, even after being deprived of a wing or leg.

Will returning bees kill the queens if two hives are exchanged?

Sometimes, but not often if they are busy gathering honey.

When we cause bees to gorge themselves with honey, what becomes of it? Do they return it to the combs?

They return it usually; but at times, as in natural swarming, circumstances may cause them to retain it until it is all used to sustain life. As a rule, we may say it is put back in the combs in a very short time.

Do you consider a queen hatched from an Italian egg and nursed by black bees, as good as one nursed by the pure Italians?

Wilson Harvey, Brownsburgh, Pa.

We think it is now generally agreed that the nursing bees make no more difference, than does the hen that hatches eggs given her.

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Would any man having eyes to see, sow clover seed that was full of sorrel seed, on clean soil and afterward give $5.00 to have the land rid of the sorrel?

I will not criticise friend Loehr's article more at present, but will say that I sowed one-half peck of your alsike seed last spring; S. S. Pontious, sowed one-half peck, and Ely Strong, one peck. This seed proved to be clean and good. Nicer young clover was never grown in this part of the country. I think the sandy soil of Palestine must be well adapted to sorrel, or my friend could not have gathered two bushels in five weeks after sowing. With us it would not have more than sprouted in that time. I live within ten miles of Palestine, and am well acquainted with the surrounding country. If he will publish you in all the Journals, we as a company, will be lively on his track.

Abraham Pontious,
Spencer Strong,
Ely Strong,
Akron, Ind., Dec. 11th, '75. S. S. Pontious.

Many thanks kind friends, but pray do not be too hard on friend Loehr; he is only mistaken, as we are all liable to be now and then.

Alsike clover seed, even when perfectly ripened, is of different colors, that is, a part of the seeds are of a dark green, and others of a much lighter shade, very often giving the impression that there are two kinds of seeds. We have several times had complaints on this score before. A magnifying glass will readily show which are foul seeds.

# Heads of Grain, FROM DIFFERENT FIELDS.

### CAVE FOR WINTERING BEES.

I MADE a room in a side hill 16x20 feet, 6 feet deep, double boarded over head and sides, with double floor and upward ventilation 4x4 inches. Have 30 swarms native bees in the room, in "Leffel central opening movable comb hives;" put them in on 15th of Nov., entirely below frost with *no* lower ventilation. Visited them to-day (26th) and all still—not a hum from them.

Am I right in not giving lower ventilation? Will some one who has had experience in wintering in caves please answer?

Intend to Italianize them next summer if I can procure pure queens in June, at a reasonable price.

C. H. GOULD, Madrid, N. Y., Nov. 26th, 1875.

We think it will make very little difference what the ventilation is if they are absolutely beyond the reach of frost. Why do you change it from what it was during the summer?

It will be rather a hard matter for you to get queens in June unless you are willing to pay for having them taken from full colonies, or send South, or to California. We can furnish queens for $1.00 in July, easier than we could for $3.00 by the 1st of June. If we ever succeed in getting over the modern "springing troubles" we may hope to do better.

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I have my bees in cellar, covered by frame the size of top of hive, with drilling nailed on lower side and bran above. One stock has gnawed through, which makes me feel uneasy about them. Will they trouble me do you think? Have entrances covered with wire cloth. T. D. WARD, Lawton, Mich., Nov. 13th, '75.

We really can not say positively whether having bran sprinkled into their eyes will make any serious trouble or not, but rather opine they will be able to brush it out after they recover from their astonishment. As we have said many times before, we know of nothing in the way of cloth except the "duck" or canvas that they will not gnaw through. If bees are in the cellar we are unable to see the need of bran, straw, or any other absorbent over them. We are also inclined to think it better not to fasten them in. What do our readers, who have given the matter a careful test, think about it?

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How will this do for a tidy use of straw in spring? Make quilts as described on page 244, Vol. VI, *A. B. J.*, i. e., into bags, and instead of sewing batting into them, stuff with cut straw (vide GLEANINGS page 135, Vol. 2). When warm weather comes on, they can be emptied and quilts used, so what's to hinder? Quinby used such on his hives in winter and spring.

--I spent some months in his apiaries in summer of '72. W. F. ALLEN, Montreal, Canada.

We think it would be first rate, but instead of emptying the straw out, why not keep them just as they are, for another winter? As straw is very cheap, the case can be made very large —there will be no trouble in packing it snugly over the frames, if very fine straw or chaff be used, and all the disagreeable litter of loose straw about, will be avoided. The only objection to using these in place of the quilts is the greater bulk, and the fact that straw is not nearly as warm as the batting, unless a very great bulk of it be used. The very best material we have ever seen, is a very light soft wool, called woolen bats, by the mills, we believe; this is so very light, that one pound—costs 80 cents—will make ten good quilts, and as wool is much warmer, besides being less liable to pack down hard, than cotton, we think we shall use wool for the quilts we offer for sale in future.

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A. I. ROOT:—I am almost a novice in bee-keeping, this being my fifth year in the business. I am now interested with Mr. Harbison, in the Viejas apiary, consisting of about 500 hives. Bees have not done very well in San Diego Co., this year, on account of drouth and late frosts.

I hear a great many inquiries from the East about San Diego Co., and would advise all, who think of coming to San Diego Co., to make the bee business a specialty, to cast the idea at once from their mind, and seek other quarters. I do not mean to say that San Diego Co., is not capable of carrying the bee business on a large scale, our honey will surpass any made, but the trouble is, our country is overstocked. San Diego Co., contains over ten thousand hives to my knowledge, and I do not know how many more. San Diego Co., is no farming country, is subject to droughts, and there is no certainty in anything. When we have a wet season, we apiarians do very well. It is surprising what the busy little bee will accomplish. Our honey season commences in July, and ends with September; between these two months we make most of our surplus honey. Bees will make a living most of the year. We depend on sage, sumach and greasewood, for most of our honey. We strain but little, storing mostly in Harbison's honey box.

San Diego does not raise enough grain etc., to support it, but ships a large quantity from San Francisco.

JOHN E. RICK.

Viejas, San Diego Co., Cal., Nov. 17th, '75.

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MR. A. I. ROOT:—While all of you North are trying the best way to winter your bees, mine are gathering pollen and honey from the *Helenia Octofolèum*, rag-weed, smartweed, and Japan plum. Of the latter, it is true there is not much, but what is lacking in number of trees is made up in quantity and quality of honey.

I am city sexton here, and have a share of Rose-Hill cemetery. There is a great quantity of the wall ivy in the cemetery, and the woods are covered with it. It is the best thing I know of for honey, commencing to bloom about the middle of July and continuing till the middle of September..

I did not make much honey this year but made 66⅔ per cent on my investment. A fine swarm of black bees came out to day, they have built queen cells and have drones. I thought they were "crowding the season" so I destroyed the cells and put them back. H. A. HARMAN,

Macon, Ga., Nov. 15th, 1875.

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Extractor gearing rec'd by mail all sound—bee veil all O, K. I have a nucleus hive eight inches square, having a nice queen, and filled with bees and honey. An old bee man here tells me I can not keep them, even in the cellar, with so small a body of bees. What shall I do with them? GEO. PERRY, Peru, Ills.

Mr. I. E. Daniels, of Lodi, O., wintered such a nucleus a few years ago, without trouble, but since our recent troubles we fear it would be rather doubtful; probably the most difficult part will be to get them through the spring months. We would suggest putting them in a very warm cellar, and if there were a stove overhead, locating them just underneath it, giving them frequent flights when the weather permits. If you succeed please report; if you do not, it will hardly be worth while, for your experience would only be that of hundreds of others who try to winter weak colonies.

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I have 32 colonies in winter quarters. Sold about $100. worth of box honey this year. Built a house apiary this fall, and shall try to fill it with bees next summer. My bees are all black except three I bought from Oatman & Co., Dundee, Ills. H. H. ROSEBROCK.

Owatonna, Minn., Dec. 6th, '75.

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MR. EDITOR:—I have not seen any sure way of wintering bees, in your paper. But little is said about wintering in clamps, which I think is as good as any and a little better; bees do not do well here in cellars. A winter house has been tried here with success, for a number of years, 11x18 feet with 6 feet between floors, with a space of 13 inches on all sides, boarded outside and in, and this space filled with dirt, (sawdust will not do), also 12 inches of dirt overhead with a good roof, doors at each end, filled with dirt, ventilated by tubes; this is called a success, the object is to keep them warm and to keep them quiet in warm days in winter.

A friend of mine has a sure cure for bee stings, it will stop the pain in from one to ten minutes and will prevent swelling, on any person.

V. McBride, Chardon, O., Dec. 1875.

The principal objection to clamps and cellars, we believe is dampness; if they are made in a well drained sandy soil and entirely frost proof, they usually answer as well as any place can that gives them no opportunity of flying unless they are carried out. We should be very glad indeed to hear of some plan that would winter bees invariably, in all localities, as should we also of some remedy for bee-stings, that is better than letting them alone. As the pain *usually* subsides in the time you mention, it will need some careful experiments to show that your remedy "does good."

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DEAR GLEANINGS:—Mr. Doolittle in Dec. No., page 152, says "bees go from *choice* at least four miles." I have noticed bees closely, and hunted wild ones successfully, for more than twenty years, in the valley and mountains of Virginia; and while I have known them to go miles of *necessity*, I do not think they ever do so of choice. A hunter, to be successful must be a close and thinking observer of everything in connection with, or having any relation to bees and blossoms; and my long experience has taught me that the yield of honey from trees and plants is very different on different soils and in different localities at the same time, and that bees only go *far from*, because honey is not abundant *near* home. I knew an Italian swarm (and there was no other within three miles) to work for days on a field within a half mile of their home; while there were other fields equally heavily covered with bloom of exactly the same kind on which the black bees of the neighborhood were at work freely, (as they were also on the field on which the Italians were at work), and although I looked carefully not an Italian was to be seen there. And I have known bees to go for miles, passing over an abundance of fresh bloom, to work on those of *exactly* the *same* kind, but on *different soil*, on a different side of hill or mountain, while bees coming from an opposite direction would not pass over these good places which were not over a half mile from their home. Most of the bees in this country are black; Italians, only a few here and there, and yet I have seldom seen the Italians far from home, not over a mile and a half, and very few that far. Bees winter well on their summer stands here, and we know nothing of foul brood or winter disease. Italians are far superior to the black.

P. Herring, Bridgewater, Va., Dec. 6th, '75.

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Wm. B. Payne, enquires, "Do toads eat bees?" In summer of '73, I had a colony of bees which increased but little for four weeks. Everything seemed all right in the hive, and I wondered what could be the cause. One day, a few minutes after sundown, I saw a very large toad sitting in front of said hive, grabbing the bees as fast as he wished them. He had a nice bed under the hive. I think he was the sole cause of the trouble.

I have good success in introducing queens by taking the queen away, routing them out of house and home, then feeding well with honey. Soon they will be all in commotion because they have no queen. Put the queen you wish to give them, near by in a cage; as soon as the bees begin to cluster on the cage, let her run up the side of a box, that in case the bees light her she may drop down in sight. I have introduced many, even in fall, in from a half hour to a half day. I leave them in a cluster a half day, then put queen and all on the combs. If the weather is cool, care should be taken that the brood does not chill.

For years I have made it a point to sell *only good* honey. As people learned this fact, the call for it increased and I have sold most of this year's crop, with scarcely an effort, at 15 cts. per lb. Have had orders from three cities 40 or more miles away. J. L. Lewis, W. Windsor, Mich.

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Should the winter continue through as mild as it has commenced, we anticipate but little loss of bees, no matter how they are wintered, whether housed or otherwise; or whether they are wintered on clover, basswood, buckwheat, golden rod honey, honey dew, or C. A. sugar. We think even our light colored lazy Italians *will stand it without feeding*, notwithstanding the fact that we have cleaned out the combs, brood combs and all, twice with the extractor since basswood closed.

J. H. Townley, Tompkins, Mich., Dec. 9th, 1875.

MR. A. I. ROOT:—I was sorry to hear that you were not satisfied with my method of wintering bees on their summer stands. I therefore at once enclose your dollar. You may give notice in your next issue, that if any of your readers have been wronged and are not satisfied with the Stauffer plan of wintering bees, they shall at once apply for their money, without giving the plan a test.

Does a pail of cold water throw off as much animal heat, in a zero freeze, as a swarm of bees do?

B. G. Stauffer, Bachmansville, Pa., Dec. 3d, '75.

We shall have to give Mr. Stauffer the credit of having returned the money promptly, but he is the first one to whom we have sent money for receipts who has ever done so. If he returns the money to all who are dissatisfied, he certainly does all he can do. The two inches of straw would certainly afford some protection, but nothing like that of a good cellar. Is our friend doing as he would be done by when he charges his fellows enough for the simple directions, to buy a whole book on bee-culture? If it is really valuable, he should be glad to do so much good, for we have given it in *plain print* to several hundred readers.

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### REPORT FOR 1875.

Commenced in the spring with 25 colonies. Sold five of them in March, four in July, and five in Nov. Received from sale of bees and honey $195,00. Value of increase at $5. per colony, $105,00. Total $300,00. Cost of hives (for increase), and honey boxes—$50,00. Two month's time at $25,00 per month, $50,00. Balance $200,00.

The cash value of 25 colonies in the spring was $200.00. Total profit, $200,00, giving 100 per cent upon capital invested. The yield of surplus honey, here, for the past season (1875) was about 60 per cent of that of the previous season. Otis Fuller, Mason, Mich., Dec. 7th, '75.

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In 1874, from 22 hives I took 2340 lbs. of honey; 400 lbs. extracted, the rest box, and increased forty-five. The season of 1875 has been a poor one for honey, but good for increase, when made before 15th of August.

D. M. Ketchum, Arcadia, N. Y.

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Season, rather poor. Basswood (our main stay) almost a failure, We had 130 colonies June 1st, '75, increased to 175, and took about 3500 lbs. extracted, and 2400 lbs. comb honey in frames. I am much interested in the "house apiary." Keep us posted.

Geo. M. Dale, Border Plains, Iowa, Dec. 4th, '75.

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DEAR NOVICE: Some assert that the *black* buckwheat is far superior to the *gray*, as a honey producing plant. I have sown the gray buckwheat for two or three years, and the bees have worked in it nicely, but I have not had an opportunity of comparing the two kinds, as there is no black buckwheat in this section. Please give us the facts as to which *is* best for honey, as I wish to sow the most of my farm (20 acres) to buckwheat next season.

M. E. McMaster, Shelbyville, Mo., Dec. 11th, '75.

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The honey season in this locality has not been a very good one. We had 22 colonies in spring and a few of these were queenless and some of them quite weak. We increased these 22 to 32 colonies, then sold three, and late in fall made three again out of double hives, so that we will winter 32 colonies. Our honey crop reached only 530 lbs., of which 300 lbs. were extracted and 230 lbs. box honey.

Mrs. C. Kustermann, *nee* Maggie Grimm.
Green Bay, Wis., Dec. 11th, '75.

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* * * "Novice's" Extractor was the last on the list, and was the neatest and liveliest machine at the Show, its gearing being peculiarly nice. It is a cylinder machine principally composed of tin, with square revolver, capable of taking almost any frames in use, and when set in motion did not know when to stop; it was, however, considered to be too light for English wear, and the judges, after considerable deliberation, awarded the prize to Mr. Cowan for his "Rapid" Extractor.

* * * We may here mention that a very large number of articles—some of considerable value—were taken from the stalls by the same kind of "jokers," notably, the highly-ingenious multiplying gearing and handle of Novice's Extractor—the only pattern in England; and unless the thief will kindly forward a copy of it when he has made his castings, it will be necessary to send to America for a duplicate. *British Bee Journal for Oct.*

We can readily excuse our English friends for thinking our Extractor light, without having made a practical test of it. Many in our own country have thought the same, but when the metal is put just where wanted and nowhere else, but little comparatively is really needed. Their efficiency has been pretty thoroughly tested during the past season, and it is found that but little power is needed when we have no cumbrous machinery to manipulate.

MR. A. I. ROOT:—I thought I would quit taking GLEANINGS, but find I can not do without it as it just saved me one dollar by its expose of B. G. Stauffer's method of wintering bees, as I was about remitting one dollar for it.

ELIAS HERSHEY, Leaman Place, Pa., Dec. 16th, '75.

Although yours is rather a doubtful compliment, friend H., we are glad that we were able to help you save your money.

I have had rather poor success in the bee business, compared with what others report this season. I took 24 colonies from the pit, March 31st, in prime order, and kept them so until the honey season began; then if you remember, thin honey knocked my calculations "higher than a kite." I was obliged to let the hives fill with honey and remain two weeks or more to ripen, and of course the bees took the swarming fever, and when once they get it, let me tell you, the only way is to let 'em swarm. The fever lasted from June 15th to July 15th, and I had 31 prime colonies, having sold six swarms. I tried all the plans I ever heard of or could think of to suppress swarming, and none of them paid except that recommended by you in last GLEANINGS, viz., carrying the old hive to a new location and returning the swarm. This I supposed was a discovery of my own, and I did not know but I might get Bro. Mitchell or Stauffer, to sell receipts for me "on halves," but you have made the matter public, and I add my testimony in its favor.

I reduced my stocks to the original 24 this fall, and now they are "sleeping the sleep of the quiet" in my pit. I have to show for the season's work, 1450 lbs. honey extracted, which I have sold at 15 cts. per lb., save what we used in the family; 60 gallons of splendid vinegar, as good as anybody's cider vinegar, at 25 cts.; six swarms sold at $3 each, and a 20 lb. box of honey at 25 cts.

Frost made its appearance the 23d of Aug. and cut short a honey harvest that equalled any I ever saw, just as we had begun to extract. In fact, my brother-in-law, J. T. Morris, extracted his the day before the frost and I fear will lose all his bees in consequence. I went over and put them in a pit for him Nov. 15th, and laid candy under the quilts which will perhaps keep them alive until we can get them out in the spring and give them liquid food.

I get a great many good ideas from you and your correspondents, but it would require at least five year's continued success to convert me to the house apiary business; though I hope you will succeed.

I am content to be one of those who plod in the bee business, and shall be satisfied with a yield of 50 lbs. per colony and 12½ cts. per lb. for honey. My honey has conquered all objections to extracted honey here, and I have no fears that I will ever be unable to sell. One man was told by a pretended chemist, that my honey was adulterated, "All right," said my friend, "Joiner can adulterate me a keg or two every fall if he wants to."

R. L. JOINER, Wyoming, Wis.

In winter of '70 and '71, I had a good swarm of black bees in a 10 frame Langstroth hive, out all winter with nothing but the cover over them, and that had a two inch hole in the end, with wire gauze over it. They could see the stars, without stirring about, I think. Still they came through finely and threw a swarm very early. Last winter, '74 and '75, I put two of my lightest swarms in the ground. I dug a pit 18 inches deep and large enough to set the two side by side, put a little straw in the bottom, and a scantling 2x4 to set them on, put them in, covers off, quilts on; put boards across top of pit, then 3 feet of dirt. The dirt was frozen as hard as a stone all winter. On the first day of April I dug them out. They were all right and among my very best. They had not a particle of ventilation. I wish I had left them in till May. I do not think it would pay on a large scale, as it is quite a job, and then we might get warm, wet winters. Too large swarms might not do as well. My ground is sandy loam. I have no doubt that a swarm of bees with plenty of good food, planted on the north side of a hill, in ground where the water would not gather round them, covered with corn stalks before the dirt, (as they are the best non-conductor of heat or cold in the world) could be left until May without injury. Believe I'll try some yet. Too many in one pit might accumulate heat. Does anybody know whether bees will make more drone comb in long frames, than short ones? When we want comb honey, give us the hybrids; they are worth twice as much as the pure Italians, but not for extracted honey.

E. STANHOPE, Pentwater, Mich., Dec. 7th, '75.

DEAR SIR:—On page 156, Dec. No. GLEANINGS, the question is asked, "Will toads eat bees?" I wish to say, for one, they certainly do when they get a chance. A good sized toad will go to a hive from two to three times per day, and will eat from forty to one hundred bees per meal. I have known good swarms to be totally destroyed by toads, in the spring. D. J. BARDWELL, Omro, Wis., Dec. 9th, '75.

Will buckwheat honey create dysentery in bees if allowed to make up their winter stores from that alone?

Are not natural swarms more industrious, and will they not store more honey in proportion to the number of bees, than artificial swarms?

Why will bees work in large boxes more readily than small ones?

It has been a very good time for bees in this vicinity this season. But few bees kept here, and they are now kept mostly for box honey. Yours in bees.

Alamo, Mich., Dec. 9th, 1875. K. M. BARBOUR.

Bees winter well on buckwheat honey generally, although we have some reports to the contrary. We should consider it as wholesome as any *natural* stores.

There is a difference of opinion in regard to natural and artificial swarms; even if it should be shown that the former are on an average the most industrious, there are advantages in favor of artificial swarming which place it far ahead, when a rapid increase is desired.

In a large box they can cluster together as a natural swarm, and thus there is a much better economy of animal heat for comb building, than if they are divided up into several small clusters. The section box we described secures the advantages of both.

FRIEND NOVICE:—I think you are getting on the right track when you advocate strong swarms. I have had only a few years' experience, but with me small swarms have been a source of loss and vexation. By the way what has become of Hosmer with his new theory of small swarms for wintering? There may be circumstances under which such swarms if kept in a warm cellar would do well but I think the majority of bee-keepers will be slow to adopt it.

Perhaps I might add a word in favor of sugar syrup for wintering. I started last winter with 17 swarms, one of which had sugar syrup, the rest had natural stores and all had dysentery more or less except this one. In fact, during winter and spring I lost them all except this. Perhaps I ought to state also that this was in a hive of double width with division boards, and the sides stuffed with hay. Most of them were covered with straw mats, the caps ventilated at each end, ventilation also below. They were wintered under snow *a la* Doolittle and Cook. To show what a fearful spring we had here—this swarm when the mat was raised on the first of April, on a cold day, occupied eight Quinby frames and by the first of June they were reduced to a cluster about the size of a quart bowl. This was the one from which I took last year 383 lbs. of honey.

I start again this winter with 17 swarms; all are in the cellar except three which are packed in hives of straw.

Two old men, who live a few miles from me and use box hives, winter bees very successfully on their summer stands. One has box hives without chambers and has wintered six old swarms (he keeps only a few and sells his young swarms mostly) without swarms, for the last three or four winters. He bores three or four ⅜ inch holes in as many different sides, about half way up, and without any protection whatever from wind and storms leaves them on their summer stands. The other has hives with chambers, but stops all upward ventilation in winter. The body of the hive has an inch hole on the front side at the top of the brood chamber, besides the usual fly-hole at the bottom, both of which are kept open in winter.

DANIEL HALL, Warsaw, N. Y., Dec. 6th, '75.

An extractor not geared is a humbug, now! and the man who offers them for sale ought to be sued for damage. They will extract thin honey, not fit for use, that is all. To do the extracting up right, the extractor should be geared 3 or 4 to one, and the combs 7 or 8 inches from center of shaft.

Plain unembossed sheets of wax are not good. I tried them, the bees build very irregular cells upon them, and don't seem to build more than half as fast as on the comb foundations. R. S. Becktell, New Buffalo, Mich.

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Can I put a frame of Italian brood in a hive and place it where I have a stand of black bees? will they raise an Italian queen from it? After having removed the stand of black bees would it not be the best time to transfer them, as I wish to Italianize all three? I have 3 Italian and 6 stands of black bees. Bees have done only medium well in this vicinity; some have made 5 to 20 lbs. of extracted honey, others not any; those that did not swarm, did best.

G. Drew, Brinker Hill, Ills., Nov. 20th, '75.

The plan you mention will work nicely, and we have many times used it as the only one by which we could get an artificial swarm quickly from a box hive, or rather a nucleus, for enough bees can seldom be obtained thus from a hive of blacks to build up safely to a good colony. If they have a whole comb of sealed Italian brood given them, they may do very well. Now although this can be done every time, perhaps, you must bear in mind that it is rather an expensive way, for you rob the old stock of all of its working force and give such a severe check to brood rearing, that if it be done in May, you will very likely injure the product of honey one-half; again, the new colony will be made of bees loaded up with pollen and honey that they have no use for because they have no laying queen. You will gain in the end by transferring first, and then as soon as they get fully prosperous again, shaking a few bees from each of several hives, on your comb of Italian brood; the young bees will remain, and as soon as they have a laying queen they may be made strong by combs, or combs and bees from others. In this way we have at all times a proper proportion of bees of all ages in each hive, much as we do in natural swarming.

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We are told to put our bees in the house or cellar as the case may be, to put on quilts or mats and leave them alone, don't go near them! Now we know from experience that this is not good advice, yet we believe that bees after put up for winter should not be disturbed if all is right. How are we to know whether all is right unless we do make an occasional examination? For instance my bees are in boxes packed with chaff, if I take the cover off the box and carefully run my hand through the chaff down to the quilt or mat and find it perfectly dry and warm, I am then convinced all is right, but if I find it cold and damp, something is wrong. Now make an examination and you will find that the colony occupies a greater space in the hive than they can keep warm and expel the moisture, but if we reduce the space to suit the strength of the colony, your quilt or mat will be dry and warm. J. Butler, Jackson, Mich., Nov. 18th, '75.

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From an address, delivered before the Meeting of the Bee-Keepers of San Diego Co., Cal., Nov. 23d, by J. S. Harbison, we clip the following. The address is to be found in the San Diego *Union*, of Nov. 25th.

The total net product of honey in the county of San Diego, for the years 1874 and 1875 together, amount in round numbers to 751,511 lbs. In San Diego one lumber firm has sold a million feet of lumber for the use of beemen alone, from November, 1873, to Nov. 1875, amounting to $38,000. In addition to this there were large shipments of cut lumber, sugar pine plank shipped here by steamers, which, with lumber sold in this city by other parties, beside the one above mentioned will add another million feet, giving a grand total of two million feet used in this single interest within two years. And yet the business is but in its infancy.

If the honey mentioned did not net the producer more than 10 cents, as we have been told, the amount paid for *lumber* for hives is equal to that received for honey. At this rate it seems they have to work for a living in California as well as other folks.

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EDITOR GLEANINGS:—We notice in your Nov. No., that Mr. John Dawson, Pontiac, Mich., says "the real honey bee" never works on the sun flower. I have a number of sun-flowers in my yard and I say that they *do* work on them for I have repeatedly noticed them at work, sometimes as many as a half dozen, both black and Italian, in a flower. They are usually at work early in the morning. I observed them at work on mine for some three weeks and they carry pollen from them more extensively than from any other plant I know of.

Wm. J. Andrews, Columbia, Tenn., Nov. 21th, '75.

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Would you make a hive for the extractor to hold more than nine frames 12x12, and if so how many more?

For the exclusive use of the extractor we would not have less than 20 frames 12x12.

Do you think it any better to raise boxes when full and place empty ones under them with openings through top and bottom, than to take them off at once and place others in their place? Does not the fact that they are less crowded for room and the bees scattered more, counteract any benefit otherwise gained?

A strong colony will be able to fill a second tier of boxes without detriment when the first set are nearly filled, and raising them up will do much toward preventing swarming.

In using small frames in place of boxes for the American hive, can I do better than to let the sides of frame come $\frac{3}{8}$ of an inch below the bottom piece to prevent their closing the mortises through the top bars of hive, the tops and sides of the frames close fitting, and the bottoms $\frac{3}{8}$ of an inch narrow.

What would you ask me for the gearing to an extractor with arbor to run through the comb frame?

O. R. Coe, Jewett, N. J., Nov. 15th. '75.

The plan for supporting the section frames given in another column, we think preferable.

If the shaft is included with the gearing, the price will be 25 cents extra.

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I have constructed some hives with frames similar to Quinby's, and think of trying an extractor and comb foundations next season. Are not yellow wax foundations as good as white for brood combs? Can you not sell yellow ones cheaper?

Just as good certainly; and they of course can be sold cheaper, as it is quite a task to bleach the wax.

I am so far from you, I think I will make an extractor and save express charges. I learned from Gleanings that the meshes of the wire cloth should be about one-fifth of an inch, but have not yet learned how large the wires should be. Would triangular wooden bars—say an inch apart—do as well as the wire cloth?

In the fall of 1874 we had four swarms of bees within 40 rods of our cider mill, which they visited constantly, but they wintered in good condition, fastened in their hives, in the cellar where it was sometimes dark and sometimes light. This year the bees did not visit the cider mill.

We left one hive out-doors last year, and are leaving four out this year.

H. A. Sprague, Charlotte, Maine, Nov. 29th, '75.

The wire to be stiff, should be about the size of a common brass pin. Triangular wooden bars are not nearly as good, because the honey sticks to them, it requires additional labor to throw it off and they bruise the combs; wood is also a very untidy substance when soaked with honey, besides being heavy. We think you will not like it about an extractor.

If cider is really *good* for your bees, and it is also good for them to be shut in the hives, we shall conclude you have a hardier race than ours; do you mean that they stand out-door wintering also, away down in Maine?

## OUR HOMES.

BY A. I. ROOT.

PERHAPS I ought to say "Chapter VI," and go ahead, but I do dearly love to stop occasionally amid my duties and have a "talk." My sister once remarked to my wife during a visit after an absence of several years, "Does he still persist in having 'long talks' in the morning, with one stocking partly on, before he puts on the other?" Chapter V, has brought out so many good ideas from our readers that we really are not ready for Chapter VI, just yet. And now I won't talk any more, but will give place for something to the point, from one of our much esteemed writers on bee culture.

FRIEND NOVICE: Your first chapters, I thought were spread a little too far for the information given, but when the Dec. No. came to hand, I could not help but offer you my best wishes. And may God bless your efforts in the direction of reform—especially upon the food question. Two years ago your humble servant was a *m-i-s-e-r-a-b-l-e* dyspeptic, disagreeable to himself and to his whole family, cross as fury, and Oh! how blue—not a spark of Christianity for anything, giving everything and everybody a rap. Even Novice got it through the *A. B. J.* Well, friend N., to make a long story short, as the old Irish women say, I got hold of "Our Digestion" by Dio Lewis, and found out I had been eating too much. What a big fool I was of course not to know such a simple thing before. I cut short my rations and set sail for the distant old age harbor, by a hygienic course of living. But Oh! what a time of self denial; though I have conquered, not only that, but the well meaning protests of parents, wife and friends. For nearly two years my course has been onward and upward. Health and spirits have returned and, do you believe it? avoirdupois is gaining on me. Though still far from being a Christian, my mind is in a better frame for such influences than ever before.

Oat meal is my main stay, and two meals per day during the winter, two meals and a light supper in summer.

We need a great deal of preaching to reform our appetites. To deny ourselves the delight of putting everything into our stomachs that tastes good, is a great trial, and but few can withstand the temptation. There is more intemperance around our tables than in the dram shop. Just think of the intemperance on thanksgiving day. I sat at the same table with a Rev. gentleman who is a leading temperance reformer, and has this very evening been addressing an audience upon the evils of King Alcohol; still this gentleman got through a plate of oyster soup, a course of turkey, a course of chicken, dressings with both, bread and butter, sauce, cakes, two kinds of pie, and two cups of tea.

There are thousands like him sinning in ignorance. Millions of dollars are thrown away upon our stomachs. The poor man has the power to become rich by simply denying self in this matter; rich, not only in this world's goods, but in health and happiness. But friend N., if you don't want long letters you should not get yourself in sympathy with your readers. I have just received your "House Apiary," thanks for it.

I remain fraternally yours on bread and butter as well as bees. SELF DENIAL.

We would most earnestly advise the afflicted, to read Dio Lewis' book, which we have added to our book list, and we fear there are very few indeed who would not be profited by his jovial and heavy blows toward the intemperance that exists in our own homes. Up to this date—Dec. 28th—I am still making baked apples and brown bread and milk, the principal part of my diet, and I am more happy than I can tell, to say that my health was never better. For the past four years, I had been obliged, every few months, to take up a diet of lean meat—"beef steak diet" as it is called—and of course I soon became so weary of it that I ate only enough to keep from starving, thus giving outraged nature ample opportunity to dispose of all "rubbish," and to get her machinery into nice working trim, which she always did sooner or later; and I would have "got mad" in a minute, had any one intimated that *I* was in the habit of eating too much; "why, I often ate so little that I became hungry and faint long before dinner time." I may be wrong, but it seems to me we can eat almost what we please, if we only take it in moderation, and avoid too great a variety at one time. It is astonishing how small a quantity of food will keep one in good health, after nature has once every thing working nicely, and it is equally astonishing how great a quantity may be put down the throat of one who has clogged his machinery until it is all out of order, and even then the poor soul goes hungry still. To be sure if you are doing hard labor in the cool, open air, you will need more food; but it is those who are mostly indoors that are to be pitied, because they have access to all the dainties of our land and then are "not happy."

## CHAPTER VI.

"Take care of the pennies, etc."—*Franklin.*

A school teacher of much experience once made the remark that she did not like to have her money in small change because she was so much more likely to pay it out—another person of good strong sense and culture objected to having a debt paid in little dribs, in butter and eggs for instance, and gave as a reason that "every body knew" that amounts received in this way did not go as far, that it all went one way and another and the result was that he should really get little or nothing for what was money all in a lump. In mentioning this matter I have been almost invariably met with quite a universal opinion that any body would be more likely to purchase little trinkets they did not need, if they kept small change loose in their pockets. Alas for humanity! if they cannot be trusted with their own money, their own sugar, their own children, and with their own tempers, how in the world are they to be trusted with any thing belonging to the neighbors? Is not all this only a species of weakness that we ought to be ashamed of? What do you think of the man who dare not keep the money, he has, by hard scraping, saved up to pay his rent, near him, lest he pay it out for something else? Would it not be a more manly way to take into careful consideration the salary received, and then coolly decide just what we can afford to pay out, and *make* ourselves conform to that decision? Among your acquaintances, which are the most useful, those who are always ready and able to do just as they agree, or those who are continually being disappointed by some very peculiar and unforeseen combination of circumstances?

Many people have a habit of saving up their "nickles," when they wish to make a purchase without "feeling it," as they term it, and perhaps it would be out of place to condemn such a harmless way of cheating ones' self. Every little while some customer brings us a heavy box full of pennies and nickles to be exchanged for silver spoons, and if we take the probable ground that the amount was saved up from what would otherwise have been wasted, it would be rather hard to decide the custom a bad one. But after the spoons are purchased, what then? Why, the pennies are now to be allowed to run to waste as formerly, and it is not unusual to find this the case, when the parties are in pressing need of money to pay debts, rent, etc. Are we not allowing ourselves to fall into an unhealthy state, into one that debars mental growth, when we admit ourselves incapable—or rather that past experience has shown that a ten dollar bill is safer in our pocket than the same amount in small change? That we may purchase a thing by saving the coppers, when we should have no right to take the same amount from our purses? that we can pay 25 cents per week without feeling it, when we could not think of paying $13.00 all at once at the end of the year, etc., etc?

Have you not all, in your separate neighborhoods, both men and women who never break a promise, who are never disappointed in money matters, and go through all the business affairs of life, whether times are dull, banks are breaking, or whatever else may turn up, always as cheerful, prompt and ready, as a pupil who comes before his teacher with his lesson all at his tongue's end? Are not such people the happy ones? Is it because they have rich friends that they are thus fortunate?

On the contrary, we think you will find they have been through life unusually independent, that they have made their way solely through their own exertions, that they have learned the lesson, perhaps thro' dire necessity, and have passed through struggles that the world would never suspect, in trying to make expenses come inside of scanty incomes.

It is quite common for young men to commence life by getting into debt, but it seems to me, they would be better off with a crippled hand or foot, and an independent, free, whole name. Did you ever have some one ask you for money due them that you could not pay, and experience the feeling of being obliged to hang your head, or look up street or down? Do you know how unmanly such a feeling is, how it takes away all one's independence, and makes him feel like an abject slave, which he really is? How is it boys? Are we, in this land of freedom, going to put up with any such humiliations? Would'nt we rather raise potatoes at 25 cents per bushel, and dress and live accordingly, than wear fine clothes and have the tailor dunning us?

When I was 18, I was in debt for the clothes I wore, and they were nearly worn out, and the worst of it was, I had no occupation in particular, and was just then doing nothing. Under the influence of a sudden resolution I paid up all I owed before sundown; but to do it, was obliged to scrape up all my little effects, and sell them at somewhat of a sacrifice. A short time after, in consequence of the failure of a neighbor I was obliged to try to borrow money, and the feeling I then had when told by one after another, that they had no money to spare, was such that I made great resolves that *never again* would I ask a similar favor of friend or foe; and when in my own humble little place of business again, the coppers were hoarded up as fast as honestly earned, with a vehemence that soon placed me squarely on my feet; and from that day to this, the fear of having a bill presented for payment without the means at hand of liquidating it has never lost its terrors.

## CHAPTER VII.

It has been suggested that I should use for a heading to this chapter, the word TRUTHFULNESS; but the word does not convey just the idea I wish, nor does any word that occurs to me just at present; perhaps I had better remark as did the stump speaker, that the subject of his discourse would become apparent as he proceeded. If it were my class of little boys in the Sabbath school, I should know just where and how to commence, for they have voluntarily chosen me as their teacher, and therefore never think of questioning my right to dictate, reprove, or whatever else I may think proper. On the whole I think I will start out with the following proposition:

### IF ALL WERE TRUTHFUL, NONE WOULD BE DISAPPOINTED.

It may be urged that there is a class of people who are never satisfied with anything, who would grumble were even truth itself presented them, but I am inclined to think such persons are of themselves untruthful and to urge that, as a reason why they have so little confidence in others. One that is remarkably truthful, is usually remarkably humble, and inclined to be satisfied with the world as he finds it; to take a cheerful pleasant view of things as they turn up, and to be pleased with the weather, with his friends, with his wife and children, with his schoolteacher, minister, grocer, all those for whom he works, or who work for him, and even with the editors of his papers, Bee Journals and all—I really dare not carry it any farther. Well, you all agree I am sure, that the disposition to always take a happy and cheerful view of things is a most excellent one, *especially* if they at the same time are faithful earnest workers, always striving to make the world a little pleasanter and to remedy the evils that are always to be found all about us. Cheerfulness of the proper kind, never prevents one from doing good in this world but on the contrary, gives him a far greater power. He who can reprove and do it in a kind and pleasant way, and yet be firm and decided, has a tenfold greater power over humanity than one who gets cross and abuses people.

If we were all perfectly truthful, we would be content that the world should know us just as we are; and if we were content to be known just as we are, we would be relieved of a world of care and trouble in trying constantly to keep the "best side out." When we had visitors, there would be no disposition to make them think our houses were *always* neat and tidy, our children always well behaved, that they always had their hair neatly combed, that we always used proper language and courtesy, and that we were always a pleasant and happy family, etc., etc. It is not in our homes alone, by any means, that we try to make the world think we are more intelligent, more wealthy, have more influence, a larger circle of customers, that we are keener in buying and selling, have brighter talents, better education, are more liberal, have more *subscribers*— this last point hits so near home that I shall have to digress a little.

It has been remarked that editors of newspapers are the "biggest liars in the world," and that "it has become such a recognized fact, that no one ever expects truth from them," especially in the matter of subscriptions. Now at first glance, there appears to be no very good reason why an editor is obliged to say anything at all in the matter, yet it is well known that a subscriber naturally would like to know in subscribing whether the paper is of large circulation, or whether it is only a very small affair, and hence the temptation for the editor to indirectly say that it is larger than it is; when an advertiser asks to know the circulation, it seems very plain that he is entitled to real facts, yet we are compelled to say that our experience of the last few years has shown that in many cases the printed statements are so largely exaggerated that the amount is sometimes nearer so many hundreds, than the thousands that are given. When such statements are called in question, we are told that all do the same thing to such an extent, that there is really no other way to do to give a proper idea of the value of the sheet as an advertising medium, just as they mark the spools of thread "200 yds" when they mean 40 or 50. Is not such a state of affairs most comforting and assuring—that the one who can tell the most plausible falsehood is really the best business man? Now, although I have told no such tales in regard to GLEANINGS—for I have avoided saying any thing about it—I fear I have indirectly led my readers to imagine it greater than it really is; and as the first step in any reform is generally made by each one commencing to reform himself, I shall hereafter give the actual number of subscribers in each issue. If our friends are disappointed in finding we are really but a small affair, it will only be a just punishment. Vol. I. reached about 500 subscribers, Vol. II. about 800, and Vol. III. reached 1671, but to accomplish this, about $300.00 have been spent in advertising it. It may be proper to state that a large part of this last sum was paid to papers representing that they had a large circulation, whereas judging from the meagre number of applications received, it must have been a gross misstatement. The Advertiser's Gazette unblushingly admits that they habitually quote papers much above their real circulation, and the result is as all may see; the figures given by different agents disagree to the extent of many thousands. Editors are only one class out of many, and the question comes right home to us all, are we to give actual facts at the expense of a loss, when others all around us deal in fiction? or shall we do as the rest do?

If to make money is the most important thing in life, it may be that solitary cases demand that we do as others do, or at least keep still while we see our fellows laboring under a piece of deception that a word from us would set right. The real work in hand however, is for each one to determine that he will correct his own faults in this respect; that, regardless of what custom is, and of what the consequences may be, he will tell the "flat" *truth*, and if no other good be accomplished, he will at least have the consciousness of standing on his own feet. A queer feature of humanity is that when appealed to in this matter, each one seems ready to exclaim that "*he* has told no untruths; that he treats his fellow men precisely as he would be treated," and there is no such thing as getting any further, for he argues and twists out of every case that can be brought, and in some cases even quotes scripture with a most wonderful perversion, to show that he is doing precisely the "right thing." Hence, it seems the first thing, and in fact the only thing, is to convince one—in a spirit of kindness—not by argument—that he really is *not* doing duty, and that his life needs amending. One person can do but little it is true, but whether he has any effect in moving humanity or not, there is One who sees and approves, and sure is the reward even though it be but the widow's mite in the right direction.

It is quite customary to advertise one's business in a sort of "spread eagle" style in these days of "young America," and so prevalent has this custom become—putting a large stone front building on one's business card for instance, when there is only a cheap wooden store—rented one at that—that we are met again with the assertion that it is so customary, like the pound jars of honey that hold only a half pound, that no one is deceived by it. And by the way I can think of *one* illustration that will hurt the feelings of no one now, unless of my relatives, who will blush for me yet perhaps. In the bottom of an old trunk are to be found some hand bills that read to the effect that "*Prof.* A. I. Root, will deliver a lecture on chemistry and electricity, etc., etc." The experiments were all very well, and generally gave satisfaction we believe, although the apparatus was principally home made; but the 17 year old lecturer (?) had hardly education enough to know the definition of the term Prof., that he directed the printer to put on the hand bills, because he feared people "wouldn't come" unless he did so. In all frankness, dear readers, I fear the same spirit still lurks about my work in spite of repeated weedings; will you please be lenient when it shows itself?

What is more painful than to hear some one in attempting to appear more learned than they really are, use words without a proper idea of their real meaning? if it be one's own relative, how humilating is the feeling, and how we do wish he would be content to appear what he really is, and to frankly acknowledge his ignorance on a particular point. I have known a young lady to refuse to attend school because she had not the courage to have it known how deficient she was in the common branches. It is hard, and takes much courage I know, to frankly avow one's ignorance upon all occasions; especially, as we are all liable to make lamentable blunders at times; but is it not always the true manly way to own up, and thus get into the only position to learn? even at the expense of having it thought we are "*awfully* stupid," (perhaps we really are) is it not by far the best way to own it all up good naturedly? I well know this to be a trying ordeal for some, and the hot blood may rush to one's face, as he finds himself the centre of a circle of surprised and perhaps pitying faces, but oh I assure you a frank and truthful ground is a safe one on which to stand. It is a simple matter to be awkward, but it is a *fearful* one to be—well, even to be in the habit of keeping still when it will convey the impression that you *are* what you are not.

I have said nothing about jewelry, or jewelers, but when looking over the broad field where most of my life has been spent I feel much as did the profane teamster, when the boys took the back end-board out of his wagon load of potatoes just before ascending a long hill, the potatoes meanwhile scattering along the ground. The boys climbed over the fence in anticipation of the explosion that would follow his looking round. To their great surprise he said nothing, and they finally ventured nearer. He very quietly remarked, "Boys, the English language haint equal to the occasion no-ways, and so I guess I wont say anything."

Our remarks in regard to nursing bottles, in chapter I., brought the following from an intelligent mother, in regard to the rubber tubing. The paper from which the item was taken is not at hand, but the writer says the statement comes from good authority. Can not some chemist tell us whether the evil be really as great as stated?

### A Word to Mothers.

All over the land women are feeding their babies from "nursing bottles" with white rubber tops. Traveling in boats or stages, one sees dozens of those little creatures, pale and miserable, tugging away at those horrible things, while their anxious mothers "wonder" what is the matter with them, and would do anything, suffer anything, to have them happy, smiling, healthy babies once more. And all the while the poor souls do not know that there is death in those white rubber bottle-tops.

The preparation in bleaching rubber is a horrible and deadly poison, and the constant mumbling and chewing of rubber so prepared places a child's life in danger. Paralysis had been caused by it, and many a babe dies from no other reason. Probably the nursing bottle, as it now exists, will be a thing unknown in the next generation, for already a French mother or nurse convicted of putting one to a babe's lips is fined twenty francs or imprisoned ten days, and to sell one in France is a grave misdemeanor.

But it is the babe of to-day that we must think of, and any mother who can not procure a nursing bottle with no rubber about it, would certainly rather feed her child slowly with a spoon than watch its agonies when it has been thoroughly poisoned with *white oxide of mercury* and kindred drugs.

Our number of subscribers is to-day—Dec. 30th—750, besides a heap of letters that came yesterday and to-day that are unanswered.

Our article on foundations has crowded several items into this department, as you see; as our Home friends are all bee-keepers we presume they will pardon it.

As it saves time, and we are a little behind with our Journal, we send Our Homes to you all this month. Will those who did not order, please excuse it?

We are about making an improvement in the comb dies whereby 7 types are cast at once, all in one piece. Particlars next month. Nothing is patented described by us.

The best foot power buzz saws that we know of are made by the Combined Power Co., 23 Dey st., N. Y. We shall have one of the machines on trial in a few days, and will report in our next.

The *Bee-Keeper's Magazine*, for Dec., is certainly a fine number. The fine paper and clear type are quite commendable, but if we may take the liberty, we would suggest a little broader columns; the *British Bee Journal* sets a fine example for us all, in this respect.

In the Nov. number of the *Magazine*, J. B. Lippincott & Co. advertise "Langstroth on the Honey Bee," *fourth* edition, revised, with 77 engravings, etc. After several inquiries as to whether there was really a *fourth* edition, *revised*, without satisfactory answer, we finally remitted for one of the books. The book is in no manner changed from the third edition of 1865, except in the one word *fourth* instead of *third* in the title page; yet Lippincott & Co. insist that it is a revised edition.

Dec. 30*th*.—It is a most beautiful day; the bees that are out of doors, and those in the house apiary are filling the air, while the inmates of the old bee-house are getting out on the floor more and more. Mrs. R. thinks we had better set them out, but should we do so the weather might change to zero almost as soon as they were fairly on their stands. We shall have to depend on opening the door nights to cool the room, until this fine weather, which has now lasted almost two weeks, changes.

The clubs that are making their appearance now almost daily are quite encouraging. Friend Doolittle and some others, have a queer way of sending the names along with the full amount, saying nothing about any premium. While we feel deeply grateful for such favors, we know it must be quite a task, besides involving the outlay of some money, to receive and send in subscriptions; and we really prefer to pay every one who works for us, for his services. If we have succeeded in making Gleanings meet your approval, we are very glad indeed.

In making our candy for bees, we tested it by pouring some into a scalloped tin, such as used for the little cakes of maple sugar. To cool it quickly it was allowed to float on a pail of cold water. Now, strange to tell, this cake remains as clear as a block of pure ice, while that in our large tins that cooled slowly, partially grained. Altho' the partial graining does no harm that we can discover for feeding the bees, it does not look so pretty; hence we said cool quickly. The candy for feeding looks beautiful, and the bees that have candy stores and little else, are in as fine health as one could wish. The little cake we mentioned was given to Blue Eyes, at her earnest petition, and as we remarked that it had a clear, sharp imprint of the dish it was poured in, the idea presented itself of a dodecahedron made of candy. We will send such a one by mail, packed in a neat wooden box, as a premium for one subscriber—after you have yourself subscribed. This will give you a sample of the candy, besides the geometry of the honey comb, and a nice, big lump of candy.

We are prepared to pay for articles, but in regard to the value, whether there be any worth at all, we must be allowed to decide. As a general thing we can not consider articles on this subject, of value, unless the writer has had a successful experience in raising honey largely for the market, or in something pertaining to the honey business. It is quite out of the question for us to think of publishing all articles sent us, yet we would by no means discourage the friendly reports that are sent in daily. It has been lately intimated that we are in the habit of writing positively on many points in which we have not had experience; very true, but there is scarce a point that comes up on which we have not at hand, letters detailing the results of experiments in the matter. Instead of giving these letters entire, is it not much better to read them carefully, and give a brief summing up of the facts brought to light?

## CLUBBING LIST.

We will send GLEANINGS—

| | |
|---|---|
| With The American Bee Journal ($2.00) | $2.50 |
| “ The Bee Keeper's Magazine (1.50) | 2.00 |
| “ The Bee World ( 2.00) | 2.25 |
| “ All three, The Bee Journals of America | 5.00 |
| “ British Bee Journal ($2,00) | 2,50 |
| “ American Agriculturist ($1.60) | $2.10 |
| “ Prairie Farmer ($2.15) | 2.65 |
| “ Rural New Yorker ($2.50) | 3.00 |
| “ Scientific American ($3.15) | 3.65 |
| “ Fruit Recorder and Cottage Gardener ($1.00) | 1 50 |

When OUR HOMES is to be sent with GLEANINGS, it will be 25 cents additional to above prices.

[*Above rates include all Postage.*]

## Books for Bee-Keepers.

SENT postpaid on receipt of price.

| | |
|---|---|
| Langstroth on the Hive and Honey Bee | $2.00 |
| Quinby's Mysteries of Bee Keeping | 1.50 |
| Bee Keeper's Text Book, muslin, | .75 |
| “ “ “ “ paper, | .40 |

These are the best. but are all far behind the times.

| | |
|---|---|
| A Manual of Bee-Keeping. by John Hunter, | $1,25 |

This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country. On several accounts we should advise it in preference to any of our own books, while on others—hives for instance, we could not follow it at all. The expensive and complicated ones used in England, would be entirely out of the question, using them by the hundred as we do.

## Good Books.

These, though not specially designed for Bee-keepers, have a tendency to inculcate principles that ensure success in bee-keeping as well as almost all other rural pursuits.

The first on the list should be in the hands of every one who has planted grape vines to shade the hives, as we have advised.

Any of these books will be forwarded by mail, *post-paid*, on receipt of price.

| | |
|---|---|
| Fuller's Grape Culturist | $1.50 |
| Fuller's Small Fruit Culturist | 1.50 |
| Fuller's Strawberry Culturist | 1.20 |
| Fuller's Forest Tree Culturist | 1.50 |
| Henderson's Gardening for Profit | 1.50 |
| Henderson's Practical Floriculture | 1.50 |
| Tim Bunker Papers | 1.50 |
| Ten Acres Enough | 1.25 |
| Roosevelt's Five Acres too Much | 1.50 |
| Art of Saw Filing (Holly) | .75 |
| Window Gardening | 1.50 |
| Leuchar's How to build Hot-Houses | 1.50 |
| Play and Profit in my Garden. Rev. E. P. Roe | 1.50 |
| Waring's Draining for Profit and Health | 1.50 |
| Onion Culture | 20 |
| Purdy's Small Fruit Instructor | 25 |
| Our Digestion, by Dio Lewis | 2,00 |

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line. Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of his responsibility and intention to do all that he agrees. and that his goods are really worth the price asked for them.

## Averill Chemical Paint.

THE *ONLY* RELIABLE.
THE *MOST* BEAUTIFUL.
THE *MOST* ECONOMICAL.
THE *MOST* DURABLE.

Requires no oil thinner or drier.
Requires no waste of time in mixing,
Has stood *eight years' criticisms*
With *yearly increased popularity*
And *yearly increased* sales.

Is sold by the gallon only, in packages of from 1 to 40 gallons each, in Purest White and any Color or Tint desired.

Address, for sample card of colors and price list,

**Averill Chemical Paint Co.,**
Office and Factory 132 & 134 East River Street,
CLEVELAND, OHIO. 6-5-'76

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

## $1.00 Queens.

*Names inserted in this department the first time without charge.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions; No guarantee is to be assumed of purity, safe delivery or any thing of the kind, only that the Queen be reared from a choice, pure mother. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

G. W. Dean, River Styx. Medina Co., Ohio.
*J. Oatman & Co., Dundee, Ills. 3t2
*Dr. . P. H. Brown. Augusta, Georgia. 9tf
*E. W. Hale, Wirt C. H., West Va. 6-6
J. M. C. Taylor, Lewiston, Fred. Co., Md. 1t6

## Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

H. Palmer, Hart, Oceana Co., Mich. 11-4

MISS S. E. FULLER, *DESIGNING AND ENGRAVING ON WOOD*, 25 Bond Street, Room 3. N. Y. Awarded Medal of Merit at Vienna Exposition, 1873. Orders by mail promptly executed, at reasonable rates, from sketches or photographs. Electrotypes supplied.

## GLASS HONEY JARS.

| | |
|---|---|
| 1 lb. Round Jars per gross | $5.50 |
| 2 “ “ “ “ “ | 7.50 |
| Corks “ “ 75c. and | 1.00 |
| ⅓ Pt. Honey Tumblers, plain or ribbed, per doz. | 40 |
| 6 doz. in a box. Packages | 40 |
| ½ Pt. Honey Tumblers, plain or ribbed, per doz. | 50 |
| 6 doz. in a box. Packages | 45 |
| ⅓ Pt. Honey Tumblers. Tin Top, per doz. | 65 |
| 6 doz. in a box. Packages | 40 |
| ½ Pt. Honey Tumblers, Tin Top, per doz. | 75 |
| 6 doz. in a box. Packages | 45 |

Also Window Glass, Lamp Chimneys, and Glassware of all kinds. For sale by B. L. FAHENSTOCK, late B. L. Fahenstock, Fortune & Co., Glass Manufacturers, 76 Wood St., Pittsburgh, Pa. 11tf

## CANDY FOR BEES.

Price 15 cts. per lb., in ½ lb. sticks, or 3 lb. bricks. Can be fed in any weather. A. I. ROOT, Medina, O.

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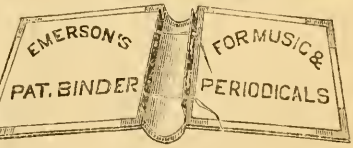

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PUBLISHED MONTHLY, AT MEDINA, OHIO,

BY A. I. ROOT.

Vol. IV February, 1876. No. 2

*In the Preparation of this Journal the following are the Principal Periodicals Consulted:*

**American Bee Journal.** *Clarke, and Mrs. Tupper.*

**Bee-Keeper's Magazine.** *King.*

**Bee World.** *A. F. Moon & Co.*

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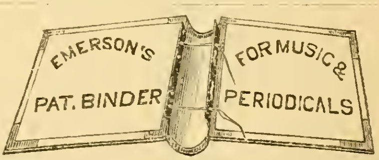

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These are the best, but are all far behind the times.

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# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
*Publisher and Proprietor,*
**Medina, O.**

**Published Monthly.**
**Established in 1873.**

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Vol. IV. FEBRUARY 1. 1876. No. 2.

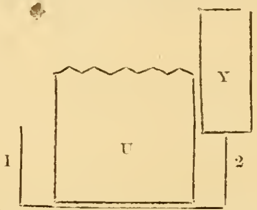
## HOW TO MAKE COMB FOUNDATIONS AND PUT THEM IN THE FRAMES AT ONE OPERATION, AT THE RATE OF 8 IN 3 MINUTES.

WE have been accustomed to thinking the Yankees were a little ahead of the rest of mankind in originality and ingenuity, but the following seems to leave us rather behind. We believe our countrymen will all join in a vote of thanks to Mr. Cheshire, and also to Mr. Hunter, who took the trouble to mail us a copy of the magazine containing the following:

It now remains for me to redeem my promise, by explaining my method of making wax guides. The first requisite is a plaster of Paris model or mould, which may be either made from natural comb or the metallic embossed plates to which I have previously referred. If we possess the latter, we shall be enabled to obtain casts of greater regularity, but not greater utility, than those made from the work of the bees. Proceed thus: Dab the metal plate with a piece of sponge or rag which has been sparingly moistened with some thin oil—paraffin answers admirably; then place over the plate, a slightly nailed wooden frame, previously oiled to prevent the sticking of the plaster, and one and a half inches deep and wide, but the whole length of this plate. Now mix a very thin paste of super plaster of Paris—the kind used by dentists for modelling—and pour it into the trough, fill up with somewhat stiffer plaster, and strike it off level at the top. In a few minutes the whole may be lifted and the frame removed after loosening its joints.

As embossed plates are expensive, I will describe how to proceed with natural comb: Select a straight card of worker cells, and, with a sharp knife moistened with soapy water, cut down towards the mid-rib, but not so as to touch it; pour on thin plaster, and lay all smooth with a trowel; when this is set turn the comb over, and cautiously shave away the walls of the cells, in which we shall be much assisted by the plaster backing. Should the comb not be large enough, two pieces may be carefully placed together, their abutting edges being sawn straight. Now dab with paraffin, using but a very small amount, and proceed as before. If the comb employed has been used for breeding, the chrysalis cases will interfere with the neatness of our work, but even then any irregular fragments may be got rid of by singeing. The sides of the moulds should be rubbed flat upon a wet smooth stone, such as the bottom of a kitchen sink, when they will be ready for use.

In order to make the guide it is only necessary to well soak the plaster cast with water, and place against its side the top bar of the frame, so that the centre of it lies along the edge of the cast. Pure wax having been melted, as I have often explained, in an ordinary glue-pot, it is applied by a painter's common brush to the top of the cast and the exposed part of the bar. The wet plaster receives a coating, which immediately sets, but does not adhere; while the wax incorporates itself with the wood, which, when raised, carries a guide most firmly attached and straight as an arrow. The little apparatus—explained by the accompanying diagram, and which I used at the Crystal Palace show, and to which a silver medal was awarded—will enable us to work more agreeably and expeditiously. A shallow tin or zinc tray, 1, 2, holding water, has the plaster model, U, stood in it, when capillarity carries up the exact amount of moisture necessary to prevent adhesion of the wax. The tins having been adjusted so as to bring the centre of the bar, Y, opposite to the top of the mould, the latter is pushed into contact with the former, and the wax brushed on as before. A dabbing motion with the brush produces the best impression which, by a little practice, may be made astonishingly perfect. In waxing frames a prop or wedge should be placed under the bottom bar, or Y will not stand in a perpendicular position; before raising the frame the prop should be removed. Instead of the tins two screws, standing between 2 and the upright piece, are, perhaps, more convenient, as they can be turned in and out so as to adjust the height of the bar, Y, to the greatest nicety.



The guide, should be finished by being cut with a pair of scissors to about the form desired. The best work is made by trimming one bar, while the next is remaining to cool before lifting.

By this plan, when the work has really started, an eight-bar super can be furnished with perfectly regular and secure guides, 1½ inch wide, in three minutes; but when the operation is long continued, the plaster grows warm. It is well, therefore, in this case to have two casts, so that the warmed mould may be exchanged as occasion requires. F. CHESHIRE.

Acton, Middlesex, England.

We have made such an apparatus, and it certainly does produce foundations as thin as may be desired, but they are so frail they would never bear shipping; besides they are by no means as sharp and perfect as Mr. Long's. It may be that the bees will use them just as well, but we confess they do not look as workmanlike as we would like, especially on the upper side. As they are so cheaply made we think they are destined to be used largely for surplus boxes, but each bee-keeper will need to make his own for the reason mentioned. Those who wish to purchase their hives and boxes all ready for the bees, without any necessity for fussing with plaster of Paris and melted wax, had better use the foundations. It may not be amiss just here, to advise you to provide large sheets of brown paper with which to cover the floor and tables, before you commence work with your wax and plaster. It will be quite difficult to make large sheets by this process; perhaps two inches broad, and the length of your frame will be the limit.

## SHALL WE FILL OUR FRAMES WITH FOUNDATIONS?

THE following hasty note from Mr. Hunter, strikes a very interesting point.

Dec. GLEANINGS just at hand. There is no advantage in *filling* a frame with embossed sheets, and I doubt if embossing is any service at all; *certainly* as plain strips of thin wax sheets 1½ inches deep is quite sufficient to secure straight combs. I, last summer, used no other and got worker comb where I wanted it. Put a sheet of embossed *worker* comb in the middle of a strong colony when honey comes plentifully and *see* if you don't get it turned into *drone* comb.

We have both sugar candy and barley sugar. The first is crystalized, the latter fused. Candy we do not reckon good for bees. JOHN HUNTER.

Eaton Rise, England, Dec. 20th, 1875.

We certainly must think friend Hunter mistaken when he says there is *no* advantage in filling a frame with embossed sheets; yet it is probably true that they will sometimes construct drone comb on worker foundations, although we have never heard of its being done here. The question now arises as to whether the plates used by Mr. Long, produce a greater depth of cell than those used in England; if we are correct, Mr. Long's came originally from England, and to test this matter we have ordered a sample from England. We certainly *have* got the upper hand of the bees, for comb *can* be made. And we have some of our own make with cells so deep that it is veritable honey comb, and would be so pronounced by the bees. The combs we have now in our apiary, that were built on frames *filled* with Mr. Long's foundations are more beautiful than any natural combs we ever saw, and the bees could by no possibility have made the same progress without them; in fact the cells were raised up in some of them, while placed in an upper story, at a time when they would not build comb at all.

Many thanks friend Hunter, for your timely cautions. It is the crystalized—rock candy—that we need for bees, and we think no bad results can possibly ensue from its use.

*Jan. 22nd*—Did you ever! The *British Bee Journal* for Jan. has come to hand and just hear what it says:

LONG'S HONEY-COMB FOUNDATIONS.

This wonderful American production far surpasses anything of the kind ever attempted in England. We have been favored with a few sample sheets, which are of wax of the purest whiteness; and, in comparison with them, our best specimens of *impressed* wax sheets are *nowhere*. In this new production the midrib, composed of the well known lozenge-shaped plates (three of which form the base of each cell), is as thin and perfect as the bees themselves make it; but the walls—*the foundations* only of which are laid—are about ten to twelve times thicker than the bees require them to be, but contain as nearly as possible the correct amount of material required to complete the cells. All the bees have to do is to soften the wall foundations, and elongate them; no time is lost in wax making—the bees are saved that exhaustive labour, and their owner the excessive cost of the honey usually consumed in the process.

As the editor had advertised metal plates for the purpose for some time we supposed of course that they were similar if not the same as Mr. Long's. Some time in March, 1874, we procured some foundations of Mr. Fred Weiss—see page 51, vol. III—and these foundations were precisely of the width and appearance, even when examined with a glass, as those afterward sent us by Mr. Long, with the exception of the small samples sent out by Mr. Long, which had very thin bottoms to the cells.

Of course these are what we want for surplus boxes, and they are in all probability what the *B. B. J.* alludes to. But on sending to Mr. Long for a quantity of these very thin sheets, we received only the usual thickness, and nearly the same after sending the second time. It is quite likely that it is going to be rather a difficult matter to furnish these very thin sheets by the quantity. Our own experiments up to this date, have resulted in making such as would do for brood combs without trouble, but we are determined that we will have as perfect as any in the market, before we offer any for sale. That Mr. Long's is nothing particularly new, we have proof, for as perfect a specimen as those of Mr. Long or Weiss—whether they are both made with one set of plates or not does not matter—were sent us by Mr. Wagner in 1870; and so far as we can recollect now, he then stated that there was a pair of plates for making them in the possession of a German, and that they originally came from England. The samples received from the three sources mentioned look precisely alike.

We are pleased to receive a specimen of type from one of our readers (Mr. Palmer, of Hart, Mich.) that is much ahead of any of our own work. Three are cast in one piece; this gives a clear sharp impression in each, and they stand upright without trouble.

We are very glad that we now know why our English friends have not had the same success with their comb foundations that we have, and think it may be said to be a settled fact, that we need *filled* frames, and that we then have nothing to fear from the bees building drone comb; also, that there is a *very great* saving of expense in giving them large sheets of foundation.

For brood combs we don't want any patching, as they will be sure to put in a row of drones along every joint. J. P. MOORE, Binghampton, N. Y., Jan. 17th. '76.

## DEPOSITORY OF
## Blasted Hopes,
### Or Letters from Those Who Have Made Bee Culture a Failure.

A. I. ROOT—*Dear Sir*:—I am sorry to inform you that I will have no more use for GLEANINGS, fearing to lose all my bees this winter, as they are badly diseased already, although I gave them sugar syrup for winter. I have, therefore, concluded to spend no more money for bees until I see whether I will have any left. Please discontinue GLEANINGS until you hear from me again.

SAMUEL L. MOHLER.

Covington, O.. Dec. 28th, 1875.

We sincerely hope our friend's apprehensions somewhat exaggerate the condition of things, yet we fear it is really a fact that bees will, *at times*, die in spite of all the care we at present know how to give, whether North or South. We may be mistaken in this, and of course hope we are. No one ever need take the trouble to order GLEANINGS discontinued after the time paid for has expired.

I met with very poor success in my first attempt to keep bees; having bought a swarm in the summer of '71; but they did not gather honey enough for winter, consequently I lost them, but I have the hive and comb yet. Is there any way to get a swarm if I buy one of the advertised queens; that is, if I put her in the hive and feed her, would she fill it? F. C. STANSBURY.

Elizabeth, N. J., Dec. 13, '75.

If you undertake to build up a swarm from a queen alone, we fear you will always remain in "blasted hopes" friend S. Get another colony, and make yourself so well acquainted with them that you would no more let them starve than you would your pony, before you think of handling queens.

---

We have read GLEANINGS for the past year, and can say that we like it better than any book or paper on bee culture, we have seen. We have kept bees for the past four years, but with very poor success; has cost us much time and money, with very little profit. In the commencement we bought a township right of H. A. King & Co., which cost us $22,50 and has been no real advantage to us whatever. We also bought a swarm Italian bees for which we paid $20,00, increased them to three, and in the spring lost them all. So we have been losing in one way and another until we have become well nigh discouraged. But we still have a love for the bees, therefore we have at the present time seven swarms stored away in the cellar. We trust our past experience will be of some advantage to us.

We like GLEANINGS because it does not countenance swindling and humbugery.

ALONZO WYETH.

Townsend, Mass., Dec. 18th, 1875.

After once getting a start, make your bees self-sustaining instead of being a bill of expense. Multitudes of people are still buying rights to make hives in spite of the fact that no one ever makes any use of them afterward. Look about you and see how many of the rights purchased have ever possessed any intrinsic value

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[For Gleanings.]

## HONEY DEW.

BY A. W. LUECK, MAYVILLE, WIS.

"*Scribendi recte sapere est et principium et fons.*" We were forcibly reminded of this maxium, that "the principle and source of (good) writing is to think right," when reading in December GLEANINGS an article under the above heading, and signed D. N. Smith, Sec.'y of the Arrowhead Bee Co. This article illustrates very aptly the negative of the above old adage, and on that account we hope it will be to the improvement of the readers of GLEANINGS, and even to that of the author himself, to criticise said composition a little, before allowing it to be handed down to posterity.

The name "honey dew" would indicate that our father's believed this substance to be of the same origin as common dew; *id est*: condensed vapors. However, the mere words do not always indicate the existence of the fact, according to their literal meaning; thus we say: the sun is *rising*, though at the same time we know that this is not the case. Just so it is with "honey dew." The fact that this substance is called "dew," does not infer that it is condensed "saccharine matter." However, usage and brevity justify the employment of these expressions.

Mr. Smith must have felt something of this kind, perhaps unconsciously, for he lays no stress on the literal meaning of "honey dew" in his communication, but bases his argument on suppositions, which only exist in his imagination. Thus, he tells us, that "saccharine matter is gradually passing off into the atmosphere in a gaseous state—and gradually becomes attracted towards certain plants and localities—that have negative attraction." Here he supposes two or three conditions to exist, upon which he bases his explanation of the phenomenon under consideration.

First, he supposes that "saccharine matter" does exist in a gaseous state.

Secondly, that it becomes "attracted to certain plants."

Because, thirdly, these plants have "negative attraction."

The first assertion does not rest upon facts. Saccharine matter does not exist in a volatile state. If it did, we could never obtain one pound of sugar by the present process of preparation. For in making sugar the juice of plants containing saccharine matter is boiled down to a sufficient point for crystalization. Now, if saccharine matter could pass off in a gaseous state, it would certainly not remain in the boiler, but would vanish with the water. That it never does, all of us know from practical experience, who ever made maple sugar. Even Mr. Smith himself bears witness to the truth of this statement. For he tells us, that they washed off (diluted) the "honey dew" from surrounding objects, and boiled it down to a proper consistency. Now what do you think, reader, would the Sec'y of the Arrowhead Bee Co., by this process ever have obtained "two gallons of thick syrup," if saccharine matter could exist in a "gaseous state?"

So we have just seen, that saccharine substances cannot exist in a volatile condition; hence they cannot be found in the atmosphere, and therefore can never be drawn down from this body by certain plants. And this answers the second assertion. But how about the third, the "negative attraction of certain plants?" The word negative means that something is denied. Thus, in our debating societies we often have a question decided in the negative; meaning that we deny that which the question affirms. Or, it may also mean an opposite quality from positive. Thus we have positive and negative magnetism; meaning thereby, that one magnetic force is recognized by an opposite manifestation of the other. But how can we apply this term to plants? Or, where is the work on botany that sanctions such employment? Will the Sec'y of the Arrowhead Bee Co. please explain? We shall pause for a reply!

We see, therefore, that "honey dew" is not, like common dew, condensed moisture of the atmosphere. Nevertheless, we find it often; its existence is not denied. But how is it produced? Let us first see what good authorities say in answer of this question.

"Honey dew," says Webster, "is a sweet, saccharine substance, found on leaves of trees and other plants in small drops like dew. Two substances have been called by this name; one secreted from the plants, and the other deposited by a small insect, called the aphis, or vine fretter."

From the Deutsch-American Conversation's Lexicon we learn still more: "Honey dew," *(melligo)* we read, "is a sweet, yellowish-white, pasty and bad smelling substance, which is found on leaves and twigs of trees and plants. Sometimes it is the product of the wood-louse, which sucks the sap from the young twigs and leaves, elaborates it in its body, and afterwards ejects it through two tubercles near the anus, and also through this latter opening. At other times honey-dew is the product of a diseased condition of the plant, prevailing during dry seasons, and originating in a disturbance of the balance between the production of the nitrogenous and non-nitrogenous substances in the vegetable tissue. It consists, chemically, mostly of manite and grape-sugar. It forms an important nourishment for bees and other insects, but kills vegetables by sealing up their pores and favoring the growth of parasitic fungi."

Now let us look at the insect itself, that produces this honey-dew. It belongs to a very numerous species—over 12,000 are known. Rebou, in his *Naturgeschichte*, arranges it in his 7th class, the *Hemiptera*, and among these in the 2nd order, the *Homoptera*, and here we find it in the family of *Aphidii*, or as Webster gives it, *aphides*. This family is subdivided into the leaf louse, the spring louse, and the ground louse (*Blattlaus*, *Springlaus*, *u. Erdlaus*.) The leaf lice have *antennæ* longer than their chest and made up of seven joints. Their proboscis is bent under their abdomen. At the end of their body are found two *tubercles* (honey tubes) secreting a sweet substance of the consistency of honey, which is eagerly sought by the ants."

This is the so-called "honey-dew," which was formerly believed to descend from the clouds during a thunder-storm.

Now our own observation about honey-dew fully coincides with the foregoing citations. We keep in our window-garden evergreen plants the year 'round. These are much infested with a species of wood-lice, and very naturally, honey-dew can be found upon and around the plants. We have often observed these insects in the very act of ejecting this substance. In summer our plants are not so much covered with it as in winter. This is owing to the fact that during the former season the ants are always ready to sip every drop as soon as excreted. Nay, they often may be seen to squeeze and coax the aphis with their bare feet in order to induce it to give off this sweet morsel. We may therefore expect to find more of this substance in places where ants have no access, or where they are scarce; provided the conditions for its production exist.

Thus, during the last summer we visited our Insane Asylum at Madison, and in this building we also found a great variety of exotic plants, and around them the floor varnished with "honey-dew." Inspection of these plants revealed various kinds of *aphidii* as being the cause thereof.

## OUR OWN APIARY.

JAN. *1st*—The new year was ushered in during a beautiful star-light night, and what is very queer for the first day of Jan., the air is almost as warm as a day in May or June. We had planned some electrical experiments for the Sabbath School children last evening providing the weather was frosty, and as it was quite warm about Christmas, we had every reason to think it would be cold before New Year's, but it was not, and the experiments had to be postponed. You may remember that we have been rather vehemently recommending submission to the weather lately, and in fact to all events beyond our control, and here was an excellent chance to see whether we could follow our own teachings. This morning as the sun arose on a cloudless sky with air as balmy as summer, we must confess that we were inclined to be a little indignant at such weather in the midst of winter, especially as we had decided not to set our bees out. Well, about 9 o'clock we got a little uneasy, and when we saw bees coming out of the ventilator to the bee house, we were *considerably* uneasy. There was no help for it; they must be set out. We rather hurriedly went into the house and called for some old clothes, although the temptation was great to "hustle them out" without taking the trouble to "dress for the occasion." After hastily divesting and waiting in some impatience, we were told that no old ones were to be found; so we patiently put on "our things" again, and just *then* the *old clothes* turned up and were intruded on our solitary meditations. Patience is a manly virtue, and we finally were rigged out in clothes that could not well be spoiled. The bee house door was swung wide open and fastened, while we mentally discoursed:

"Now look here old fellow! you know you always used to 'get mad' when you carried out your bees, but after all the talking you have done lately, guess you had better consider it one of the luxuries not to be thought of, so prepare to 'keep cool' and 'go slow.'"

No wonder they were getting out the ventilator: the air was hot and close inside, and the minute the door was opened a fair swarm rushed out, and commenced taking their points around the door way.

Things went very well for a while, and the number of stings was no greater than usual. But the hives were awful heavy, and in spite of the number of dead that strewed the floor, they seemed to be pretty well filled. The bees that flew out, we judged would be mostly saved, for they had been housed scarcely 40 days, and soon gave evidence that they knew very well where their hive should be, for they formed in considerable clusters on their old locations. We must go back here a little, to explain: during the honey harvest, as we wrote last July, on account of the rain, we were obliged to give an unusual number of hives an upper story; and to do this without bringing a lot of new hives into the apiary—we have learned to get along with just as few hives and fixtures as we can, by some lessons in sad experience with a *multitude* of traps—we changed places with quite a number of hives during the season. Well, when the bees were housed we either forgot to number them anew, or were too busy to attend to it, in fact we made no calculation at all about taking them out in only six weeks, and as soon as we saw that it was really important that each should have its own location, we began to get "swamped" in regard to the order in which they were put in.

"Let me see, where did I carry No. 18 to when I made that division? and what *is* the number on that next hive?"

While we were pulling one hive out on the shelf, and dodging a bee that had a fondness for one's eyes, and then twisting a second hive a little to see if we could not recognize some familiar "knot hole" to indicate its locality, all of a sudden the upper shelf tipped and two hives turned a somersault, and on their way in their downward fall, knocked down a third.

"Steady my boy! as you have lately taught, any body can be cheerful when things go smoothly, but it takes a hero to be mild when the time of trial comes: you can now show your skill and self control all at once." But the old tempter seemed to think perhaps now was a time for him to put in a word, and as one wicked sting struck us on the nose, and another on the temple, then on the ear, wicked thoughts *would* well up and Satan whispered "I would stamp them all to atoms, if I pleased; and I wouldn't be obliged to keep my mouth shut either, and bear it all without any respite What pay do you get for all this any way? *I* would let the bees all go and take the world easy as others do. What is the use working all the time?"

"You will go right ahead and do the best you can," says another voice, "all this trouble is the result of your besetting sin of negligence and carelessness."

"It's no use trying," says the other, "you have always had just such work all your life, and you always will. No body cares how much you sweat and suffer. Just hear them laughing and joking in the house now. *I* would teach them."

"Mortal you are sinning to even listen to the voice of the tempter! You know full well that your friends give you far more credit than you deserve. You *must* rise above this, nay, even if far greater trials be still in store for you. Answer pleasantly the individual who is now asking you if your bees are 'swarming.' Possibly you would show no more 'sense' in regard to *his* business than he does in regard to yours. Look cheerful! You *can* and *must*. Keep at work, if you see where you have failed, remedy it. 'There is no excellence without great labor.' Are the bees robbing? All the more reason why you should push along. Is even the broom handle sticky with honey like every thing else? And the floor a sticky mass of bees, honey and candy? Does your back ache and do stings and stickiness meet your hands at every touch? Push ahead and don't get yourself into another such a muss. All this ruin and loss of property comes from your just neglecting to change the marks on your hives when you moved them."

More trials did come dear reader. Three colonies were found dead because they had been given the candy that was slightly burnt, but the rest were in fine condition. On taking a look at the house apiary to cheer up our feelings, we found that there was even trouble there; for they had drawn the wool out of the entrances, and were getting tangled in it, and it really did seem for awhile that our work was all a bundle of failures. The worst of it all was that we didn't succeed in looking pleasant either, until the hives were all set to rights, robbing stopped, and all flying merrily from their own stands.

*Jan. 18th*—It is warm and like summer again, and right glad are we that our bees are all in condition to fly freely. It is odd to get letters daily telling how the bees have been bringing in natural pollen in midwinter, and working on meal, even in the Northern States. All who had bees in houses have been compelled to take them out we believe; but we have heard from several having good cellars, who have been able to keep them quiet during the whole of the winter, thus far. It seems peculiarly trying for those who have laboriously put them indoors again, thinking the warm spell over, to be obliged to take them out a second time. We fear friend Bolin is one of these; he writes as follows:

Bees on summer stands again. Thermometer in the bee house ran up to 65° Jan. 1st, and the little scamps would keep still no longer. I would like to see any one keep *my* bees quiet at a steady temperature of 50° as some advise. **James Bolin.**

P. S.—*Jan. 4th.* Bees all in the house again, as nice as mice.

West Lodi, O., January 3d, 1876.

### CANDY.

Since taking all the burnt candy away from the bees that were dying, they have recovered, and a little research in our chemistries reveals the fact that sugar on being heated beyond a certain point, is converted into a substance called caramel. This is the substance that gives common molasses and our syrups their dark color and taste; and all the brown sugars contain more or less of it. It attracts moisture from the air and becomes wet and sticky, especially in damp and cool weather; in this condition it produces a malady much like that occasioned by thin watery honey, among the bees when confined to such a diet in cold weather. It may be wholesome in very warm weather, we have as yet not been able to determine. In the process of refining, the sugar is entirely freed from caramel, and hence the safety of white sugar, or what is still ahead of it, rock candy; for nothing but the chemically pure sugar will so crystalize. This rock candy may be left anywhere, even in a damp cellar, and it never feels sticky to one's fingers, while all other forms of candy or sugar are very apt to absorb dampness from the atmosphere. The brown sugar fed last fall has so far proved perfectly wholesome.

Many are the conjectures as to what the effect will be of having the bees rear brood all through the winter; and if it is really going to be deleterious as many imagine. Those who have the spacious cellars with an even temperature, will probably be the most fortunate. Should the frequent flying be productive of good rather than evil, it will result somewhat in favor of the house apiary. Will all our friends try and give us facts in the case without falling into the error of defending some particular pet theory of their own. Remember we want truth, and it makes little difference as to who comes nearest it.

# Honey Column.

### "WHO WILL CARE FOR MOTHER NOW?"

DOESN'T the Dec. No. read a little as if Novice was not defending extracted honey as valiantly as formerly? *I* believe there is less danger of overstocking the market with choice extracted than with comb honey. Honey is a luxury, and many who are now compelled to give up the use of box honey will buy extracted. Also, the market for comb honey lasts but a short time while extracted properly put up, is a standard shelf article during the whole year. *It does not injure by keeping. I know* that with us the demand for liquid honey has been better than for box, and that we could have sold several tons more without soliciting a buyer. Liquid honey is out of the market in San Francisco, and I think you would find it difficult to buy much extracted honey in the principal markets east. **P. H. Elwood.**

Starkville, N. Y., Jan. 10th, 1876.

Perhaps we had been listening too much to those who were borrowing trouble; we must confess that since then, we have had very good reason to feel that a nice article of extracted honey will never lack a purchaser. We have just now received a check from friend Muth, to be handed to a neighbor, for a barrel of honey at 15 cents, and we really must think this a *good* price. We have perfect confidence in the ability of our people to decide what kind of honey they prefer, and we would simply advise our readers to give them their choice. There is certainly no occasion to argue or quarrel over the matter, more than there is to dispute with a dairyman as to whether he should sell his produce in the form of milk or butter; if he makes a mistake he speedily gets right without any assistance from outsiders.

EDITOR of GLEANINGS:—My family try to persuade me to sell all my bees, but I have not yet concluded to to do so. If I should regain my health, I would wish no more pleasant or more profitable business than bee business. Mr. Heddon's remarks to the contrary, notwithstanding. Not counting the 1,400 colonies of bees, all hives, boxes, and other rigging on hand worth anything, I cleared, in 9 years, little less than $36,000, and consider myself in easy circumstances, having income enough to support myself and family without any more work. Have sold all my comb honey, little over 7,000 lbs, for prices ranging from 25c per lb, gross weight, down to 20c net weight, for honey in large boxes. I have nearly 10,000 lbs of extracted honey on hand yet, and would sell it, if all ordered by a responsible party, for 12c. per lb, delivered at our depot. What was sold went for from 13 to 16c. Bees seem to winter very well so far. All mine are housed in 13 different cellars. **Adam Grimm.**

Jefferson, Wis., Jan. 10th, 1876.

Our bees stored a surplus the 9th day of August and so on till the 9th of Sept., when the great honey harvest was over. Our greatest yield in one day from one hive 12½ lbs—30 Aug.; 5,500 lbs. from 57 hives, all extracted honey. 3,000 in bbls which we offer delivered at the railroad for 13 cts. per lb. **T. E. Hawkins & Bro.**

New Frankfort, Mo., Dec. 10, '75.

Some body scolded about our sailing our hats when we bee folks had found out any thing *particularly* clever, and we have many times been admonished to "drive slow and go steady," but when one has fussed and worried and bothered to get good old "Dame Nature" to go in some channel contrary to her inclinations, and was obliged to give it up in despair; and then to see her in her unswerving and unbending way create forms of wondrous beauty, who could help expressing his admiration and thanks in some manner most congenial to his feelings. Now friends Heddon and Burch we know you will show that you have a true zeal and interest in all improvements in our specialty, by granting that the following is a great stride in favor of extracted honey What credit there is belongs more to accident than to us.

You see we had some basswood honey, two barrels of it, in 1874, and to keep it from going into that troublesome candying process we had it taken to our store and deposited near the furnace; in spite of this it soon began to roll up and ooze out of the bung-holes, and we scraped it off, and dipped it out panful after panful, until we began to think it really never would stop, and to seriously meditate selling it for 10 cents, just because it, like the old lady of the fable, could never be quiet. But by and by it stopped, and some huge piles of paper for Gleanings and other rubbish were put around the barrels until we almost forgot we had them, but when the honey table was started, basswood honey was suggested as a variety, and one of the barrels was opened. A few dozen jars were filled—after it was melted—and as the most liquid portion was easiest to get out the candied honey was left clear to the top of the barrel on one side. One day the remarkable whiteness of this attracted our attention and a plateful was put in a glass show case Now it was that Dame Nature began to show us what *she* was trying to do, for the honey was getting whiter and whiter, and as we take *another* admiring look at the pearly blocks as they sparkle in the lamplight, we pronounce it more beautiful than the plates of comb honey by its side. It melts in one's mouth like delicious confectionery; and even old bee-keepers do not recognize it as honey.

Mrs. R., who never can bear "basswood" honey is enthusiastic over it; in fact we entrusted to her and Blue-Eyes the task of making the experiment of melting some of it and when it softened so that it would pull like snowy cream candy, they ate it every bit and we never saw it at all, giving us an excuse that any one would have done the same if they had just got one taste of it.

Now we haven't told all yet, for this same beautiful honey can be done up in paper packages, or put up in paper boxes and it actually isn't "sticky" a particle. Just think of it! ye sons of toil—and stickiness—all that is to be done in the future is to run your honey into barrels, put it out of doors and get it candied the first cool night, roll it over and let the liquid portion with its rank odor and coloring matter all drain out, *a la* loaf sugar; then lay it on shelves to dry and put it in boxes lined with pink tissue paper and get your own prices.

We have only succeeded partially in doing the same thing with clover honey, that is, it has not yet come out so white and dry, but we think it can be done, and right here comes in something funny. This honey when melted is so thick that it will not even run, and is more effectually ripened in every sense of the word, than the bees ever do it in the hive. If your honey is thick enough to candy, you need have no fears about it. Does it not lose in weight by such concentration? It must, we think, certainly, and we have advanced the dry white honey to 25 cents, while we sell the other at 18. If you do not succeed in making it we will send you $\frac{1}{4}$ lb. in a wooden box, by mail, for 13c., or $\frac{1}{2}$ lb. for 25c. As it is light and porous, you will have enough to try the cream candy, by warming slightly in an oven.

There is something about it that we do not quite understand yet, for we have tried draining it in a dish with a bottom of perforated tin, and we have at present a lot of it hung up in a wire-cloth basket, but it does not come out as white as by simply standing a barrel on end that had been on its side while the honey was candying. It is doubtless a slow process of crystalization, and it is this that causes the honey to run over and ooze out of the bung-holes.

Dear, kind, old Dame Nature, and you *did* know best after all; hereafter we shall take as much pleasure in seeing the honey candy and expand, as we do in seeing the fruit blossoms unfold; and by the way do you know how we extolled the clover honey belonging to our neighbor Payne?

Well, this clover honey had stood in stone crocks a whole year and had ripened to a standard of excellence and purity that we really believe is beyond the power of the bees, the coloring matter and rank flavor having probably drained to the bottom of the crocks. If you have any poor honey put it out in the cold and let it candy, then turn it out on a sheet of wire-cloth where it will be out of the dust, and drain off all the liquid portion; now it may astonish you to hear that it may be dried in an oven, to expel all the water, but such is the case, if you do not make the heat so great as to melt it. And in this shape it may be kept for years, and even done up in a paper like sugar. Paper boxes to hold 1 lb. will not cost over 2c., and wooden boxes suitable for mailing samples, but little more than twice as much; of course we can use our usual labels nicely.

## HIVES.

We have strong hopes that during this centennial year, not only our own country, but the whole world, of bee-keepers, may pretty nearly agree on what is really needed for a bee-hive. And to see how much progress we have really made in that direction is a part of the purpose of this present article.

Our neighbor Dean said a few days ago that if he were going to raise comb honey, he would unhesitatingly adopt the shallow Langstroth frame, although he has been one of the strongest advocates of the Gallup frame. Just what effect the artificial bleached wax comb is going to have on the shape of hives, we are unable to tell, but there can be little doubt but that it will turn many others, like friend D. toward the L. frame and two-story hive. This last season has been a little peculiar. More than one of our readers have extracted their honey in the summer and fed it back in the fall to prevent starvation. This is certainly not good policy; for we lose the labor and wax in the caps when we uncap the honey, and then are obliged to feed enough more in the fall for them to build new caps. To feed sugar *might* pay, but to feed the *honey* back, never. The principal objection to the two-story hive for the extractor, has been the trouble of getting at the frames in the lower story. But suppose we don't extract the lower story at all? The bees may swarm "like the very mischief" it is true, but no worse than they do when comb honey is raised. We last season, made some experiments in the matter and quite agree with friend Doolittle who writes as follows. When the bees are nicely at work in the upper story, very little honey will be found below among the brood.

### EXTRACTING HONEY FROM THE BROOD COMBS.

FRIEND NOVICE:—Many seem to suppose that something must be done in time of box honey, to clear the brood combs of honey to give the queenroom to lay; and I see by your remarks on page 4, second column and fifth line from the top, that you are liable to fall into the same error. Now we have been a careful observer and find that when bees are at work best in boxes there will be scarcely an ounce of honey in the body of the hive, if the hive is no larger than size given on page 68, Vol. 3. If any one expects to get a large yield of box honey and use the extractor on the brood combs at the same time, they certainly will not realize their expectations. After the bees get thoroughly at work in boxes, let the brood combs alone and you need have no fear of the queen's being crowded. If honey accumulates in the combs before they get fairly into the boxes have no fears for as soon as they get to work in the boxes they will carry it all up into the box and make abundant room for the queen. For instance, take 9 Gallup frames well filled with capped honey, and have a good strong swarm of bees in them, putting on the boxes at once, and in from 14 to 18 days (if honey is to be had in the fields,) every bit of it will be put in the boxes.

Once more: If you let a first swarm issue from a hive and keep them from swarming again, by the time the young queen gets fertilized, every available cell in the brood chamber will be filled with honey, and still no start be made in the boxes; but just as soon as she commences to lay, the bees will commence in every box (if the box room is of about 50 lbs capacity,) at once, and I have known every box to be completed in just 8 days from time of commencing, under such circumstances. Examine that hive in 20 days and you will find scarcely a cell of honey in the brood comb, and as nice a lot of brood as you ever witnessed. By the way, when you see the bees commence in earnest in boxes where they have (as they should have) a queen just fertilized, you may know the queen is there and has commenced to lay, just as well as if you saw the eggs in the combs. Now, we will suppose that just as this queen was fertilized you had extracted all that honey from brood combs, you would not have got a single box of honey unless from buckwheat. Again I repeat it, if you want a large yield of box honey keep prolific queens, and let the brood comb alone.

Tell Mr. Payne that toads do eat bees, and that by the thousand, if the stands are so they can get on them and hide under them. G. M. DOOLITTLE.

Borodino, Onondaga Co., N. Y., Jan. 11, '76.

We shall have to come 'round to Mrs. Tupper's position somewhat, in regard to leaving the brood combs it is true, but not for the reason that the brood is injured by being put into the extractor by any means, for hundreds of those who keep bees largely have testified that the brood is never harmed unless thrown out of the cells, and even then the bees sometimes put it back without injury.

We need hardly say that if we only remove the frames from the upper story for extracting, a two-story hive is much handier than even the Standard or any of the long hives; for there need be no stooping, either in extracting or using section boxes Well, suppose we should go back to a two-story hive; can we afford to have the upper and lower story unlike?

After racking our brains on this problem of hives, until we feared it would make us sick—or crazy—after hunting over heaps of letters and back volumes of bee journals and being constantly appealed to meanwhile with letters and postals, after having wasted heaps of lumber in experiments—to say nothing of tin and galvanized iron—besides telling hands that have to be paid in hard money every Saturday night, that they may use the stuff they have cut up for kindling-wood, perhaps several times over; after having done all this, and more in the effort to answer wisely the oft repeated question "What hive would *you* recommend?" we for the first time in many days, feel that we can tell the hands what to make, and can pretty nearly tell all who enquire, what we would advise to buy.

If you are just commencing, or if you have but few hives, and those of various sizes, use Langstroth frame, and we are going to try hard never to be led away from this decision again, unless *very great* inducements come up. If you think you must have a deeper frame use the Standard, but we prefer the L., just because it *is* shallow. Have every hive so made that it can be used either one or two-story, and have both upper and lower story alike *by all means*. The difficulty of keeping the proper distance between the frames of the upper and lower story may be managed in the way given on page 148, Dec. No., or by the very ingenious plan given in the following:

I use the Standard frame, 10 of which make a good sized breeding apartment. For box honey they are just the thing. I make them exactly square, 14½ inches inside the hive; they always fit any where and any way, and if R. L. Joiner wants his frames close together in upper and lower stories he can rabbet out for the frames on two of the sides and let them as low down as he pleases, and when turned 'round the other way they are all right for a lower story, if this style of hive is used.

CHAS. H. RUE, Manalapan, N. J.

We can also accomplish the same result by giving the edges of the hive a bevel or a slope so sharp as to be the regular square mitre such as is used in making frames, if our hive stuff is not more than ⅜ thick; but to get a nice fit at the corners these should also be fitted with a mitre joint. It may be thought by many rather rash to advise hives of ¼ or ⅜ in thickness, but if those who really seek for truth will diligently collect facts, we think they must conclude that straw, and rickety, unpainted hives have fared full as well, if no better, than those so carefully made and painted, and that the great losses have occurred just as often, if no oftener, among those so carefully protected, as with the farmers who take no pains at all, if we leave starvation out of the question. The following letter is only one among a great number of similar ones in our possession:

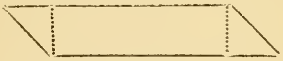
My bees are this winter taking the weather as it comes on their summer stands. I have for three winters past, packed them with straw, chaff, paper, etc., as protection against frost, with but moderate success. Neighbor A. entered last winter with one box hive split from top to bottom—cleft separated about ¼ inch and comb visible through the aperture—another box hive in the same fence corner was so badly decayed at its base that it leaned towards "Riley's barn," and was propped with a fence rail to keep it from tumbling down. Both these stands were *abundantly* supplied with bees. Last spring I found two of my hives negative quantities and balance more or less reduced. On a fine day I went over to see neighbor A.'s tumble-down hives, expecting to see them minus bees, but to my surprise they were stronger in numbers than any of mine, though I thought they had no advantage that way in the fall. The only loss Mr. A. sustained was in a "Darned patent hive that he never had any faith in." The only protection his bees have is a wind-break in the shape of a rail fence on the north, and a pig sty on the east. Of course I don't favor hives as above described, but it seems to prove that in out-door wintering, bees do not demand protection from the *cold* so much as they demand thorough *ventilation*. I am trying the ventilating plan this winter

J. N. WHITE, Wolf Creek, Pa., Dec. 14. '75.

The straw mats used by friend Muth and his neighbors, and the invariable success they have given when the hive was properly ventilated above, only corroborate the same thing, as does the universal testimony from hives made all of straw.

On our price list are six different frames; can you imagine the difficulty of trying to keep on hand ready to ship, the materials for all these different frames and hives to match, covers to match, quilts to match, etc.? and now comes the task of providing honey boxes and crates to ship them, for all these *six* different hives. Do you wonder we have occasionally made blunders when orders came in the height of the honey season? We advised the Standard hive and extractor just to try and get things into some regular channel, but we have had to fill orders for all the different kinds of frames and hives each season about the same, and boxes *just right* for all these began to frighten us. Listen a minute, and see if we can not show you that light is breaking before us.

Get a pine board any width, and 3 feet long, dressed to ⅞ exactly; now fix a smooth, level board in front of your buzz saw at an exact angle of 45°, or so that when you rip off ¼ inch strips from your 3-foot board, they will have a sharp mitre bevel on each, as shown in the diagram, which is supposed to be a cross section of one of these strips.



Now we will cut them up as we do frame stuff, on a mitre, and of such lengths—a side and an end from each strip—that we have a frame 19¼ by 15½, inside measure, after the frame is put together with metal corners of galvanized iron. To use the corners on stuff of this shape, we saw into the ends of these pieces as shown in the dotted lines, and to do it quickly we have two very small fine saws arranged on the arbor just ⅞ of an inch apart. These square hoops as they might be termed, are very strong and light, and the bevels are such that they fit on each other very securely. Pile 8 of them one on the other and you have a hive that will hold 11 L. frames; put on two more and it is just right for 13 Standard frames the other way, or 10 Quinby frames, either closed end or suspended. Both the L. and S. frames require a ⅜ piece of board to support the rabbets, and to close the space at the ends of the frames down to 3-8 of an inch; by putting a small screw in these boards at each corner, but not so long as to go through the hoops, the whole is held in one solid piece. We secure by this means a very strong light hive that is just right for four of the principal frames in use, and thus are enabled to use the same quilt, bottom and cover, and more than all, can arrange a nice case of boxes to be put over the frames either one, two, or more tiers high. With the folded tin supports mentioned last month fastened to a single hoop, we can remove the set of boxes very easily, and to see when they are filled or ready to raise up, we have only to elevate one of these hoops a little; if they are ready to raise, lift them up case and all and put another case of boxes just under them. Four hoops answer for a set of boxes, and each set can be sent to market just as they came from the hive; the ordinary cover answering for top and bottom. Each hive, no matter what the frame, is furnished with a division board, and this with the end boards makes a thickness of ⅝ on all sides except the south, where the sun strikes and where we will have the entrance. This is only ¼, and in the spring we will keep the brood close up to it. It *may* be best to keep the bees well up to the north side in winter—when wintered out—with the division board raised that they may go under it.

Now there only remains the American and Gallup frames, and if these could be used in this hive also, we might all use one style of honey box and case for them and still retain the frame we prefer. By using a division board and taking off a hoop or two we can do it, and the space left back of this division board can be filled with boxes for side storing on the principal of the Quinby, Alley and Hazen hives. And thus for the first time we have a universal hive that holds all the six principal frames. We forgot to say that in this hive the closed end Q. frames can be used side by side in the same hive with the suspended ones; thus, we can use the former for brood combs shipping etc., and the latter for the extractor, and we haven't told it all yet either; the hoops of this hive shed water like the shingles on a house, so there is no need of painting it. The covers are made 3-8 with a frame of galvanized iron around them to prevent warping, etc. Judging from past experience that it will save a considerable expense in postals to both you and us, we give prices here. Two-story Langstroth, with upper one arranged for frames or boxes as you choose, all complete, $3.50. One and one-half story—11 frame hive and one case of 24 section boxes—$2.75. Hive for 11 frames, no boxes, $1.75. One case of 24 boxes, $1.00. All the boxes will have guides of comb foundation, and a case of boxes can be fitted to any hive with but little trouble; also, they of course fit so that any number can be piled up, one over the other. As we shall have to make the hive 2 hoops deeper for American, Standard and Quinby hives, the price will be 25c. per story more than for L. hive.

P. S.—A body and cover for a one-story L. hive will be $1.00; for any of the others, $1.10. The same including frames and quilt, $1.75 and $2.00. It will be remembered that the Standard, American and Gallup have 13 frames each, as well as being 2 hoops higher in this UNIVERSAL HIVE.

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## BLEACHING WAX.

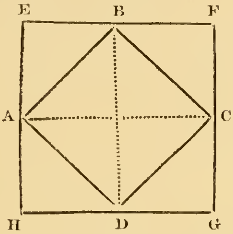
WE purchased this receipt of Mr. Hibbard, and afterward found the same in two different places in the back volumes of the *A. B. J.*, but for the life of us we can not get it to produce any wax nearly as nice as that used by Mr. Long. If our readers do better, will they please report.

Melt the wax, and for every pound, add 2 oz. of pulverized nitrate of soda, and 1 oz. of oil of vitriol, diluted previously with 8 oz. of water, while the latter is gradually poured in, heat is applied to the already melted wax, and the whole mixture swells up, necessitating the employment of a capacious vessel. On cooling, the wax gathers on the surface, and being repeatedly treated with *hot* water to wash away impurities and chemicals, is finally allowed to solidify in a cake

Auburn, N. Y. Jan. 20, '76. C. D. HIBBARD.

## THE DODECAHEDRON.

WE beg leave to show you something interesting in regard to this curious geometrical solid, that we had not discovered when we spoke about it last month. We told you the length of the lozenge in proportion to its breadth, was as the diagonal of a square to the side of the same square.



Now we will suppose that some of our readers who have those nice little buzz saws make a cube, A, B, C, D, for instance, and that they then make six pyramids, each having a base equal to one side of the cube, and of such altitude that the size when their points are put together, will just make another cube precisely like A, B, C, D. Now if you place these pyramids on the cube with their bases on its sides, you have a perfect dodecahedron, and it requires no knowledge of geometry to see that the distance between their apexes, as F, G, is just equal to the diagonal of one side of the cube, B, D; and also, that the width of the lozenges is just equal to one *side* of the same. And this is the reason why the bees make the bottoms of their cells at the precise angle they do. If the solution of the problem gives you as much pleasure as it did us when it first dawned on our understanding, we shall feel quite happy.

## BUZZ SAWS.

WE had hoped to be able to report in regard to the "V. M." foot power buzz saw before going to press, but can not, as we learn that it is only just shipped. Much interest is felt in the matter, and as it will be a great saving to our readers we will try and make a practical test of the different machines offered for sale, even if it costs us some money.

I want a good foot power saw that can be carried in a buggy with roomy bed. I would like most reasonable terms. The one described in GLEANINGS I object to, 1st. on account of heavy balance wheel; 2ndly, I do not think I could well get it put up here in good shape. The one manufactured by the Combined Power Co., N. Y., (mentioned in Our Homes,) is expensive, $137.50 including attachments and boxing. What kind of machine did Mr. Palmer use which you mention seeing in your travels through Michigan? Do you know what kind of machines are made by W. F. & John Barnes, Rockford, Ill.? Combined circular and scroll saw at $40.00? I enclose their descriptive price list. It may be of service to you as you appear to be disposed to recommend only what is of real merit. C. WEEKS.

Clifton, Tenn., Jan. 11, 1876.

After receiving the above we sent directly to the party named and made an arrangement whereby we think we shall be able to report in regard to a trial of the $35.00 machine in our next, as well as the high priced one. Even should they do the work slowly, it is so much more accurate than any hand work, that they are a great saving. Friend Lane puts in the following very terse remarks in regard to keeping them in order, and on the book on saw filing:

Art of Saw Filing duly received. The difference in the appearance of work done by a saw carefully filed, "*Secundum Artem*" and that done by one filed "according to the rule of thumb," is the difference in the appearance of work done by a plane, and that done by a coarse rasp; hence, when one's little "buzz" gets permanently like the man's razor that "didn't let go worth a cent," it pays to purchase the book, even if the price does look enormously high, for so small a work. D. P. LANE.

Koshkonong, Wis., Jan. 20, '76.

## COMB FOUNDATIONS.

SINCE our last No. was issued we have had a perfect stream of inquiries like the following, indicating the deep interest felt in the artificial combs.

I wish to purchase some artificial comb foundations, some of the thin and white for surplus boxes. Do you keep it for sale? If so, what is the price per lb.? What sized packages is it put up in? How much surface is there in a pound? How large a piece do you put in a box, say 2 lb. box? or how many caps will a pound supply? Please reply by return mail; if you can not supply me please inform me who can. HENRY K. LATHROP.

Royal Oak, Mich., Jan. 26th, '76.

Will you please to inform me whether you can get up the artificial comb foundations, such as Long sends out? and for what price? What would the dies to make foundations about 6x8 inches cost? If you should get up a set for me, how soon could you do so? How long does it take to work up say, 10 lbs.? I have about 75 lbs. of nice wax on hand and might prefer to have you work it up for me. At what price can you do it for me? Freight would be but very little. ADAM GRIMM.

Jefferson, Wis., Jan. 24th, 1876.

We have at present none for sale except some that we purchased of Mr. Long, and can offer only at the prices he mentions in his advertisement. We can put it up in any sized package, but the sheets do not exceed 6x16 in size. As it is liable to be injured by the mails unless put between boards or in boxes, it is necessary to charge extra to cover postage on small amounts. The thinnest Mr. Long has sent us measures 5⅓ square-feet to the lb., and the thickest about 3 square feet to the lb. We at present, put a piece 1x6 inches in the boxes we sell at 2 cents each.

In answer to the many calls for small dies, we would say that making the comb with plates, is a slow and laborious operation, and after finding we could make good ones in that way, we set the best mechanic we could find, at work to make us a machine for doing the work with metal rollers. He is now at work and will without doubt succeed, although there are many difficulties in the way. These rolls are to make it one foot in width, and as long as any may wish. Until this machine is finished we shall procure what we sell of Mr. Long, and we feel sure it will not pay any one to work with small plates to make a large quantity. Please be patient awhile kind friends, and we will try and furnish all you want at reasonable prices long before they are needed this season. We have wasted some money in experiments on it already, but rest assured we shall by no means give it up.

# Humbugs and Swindles

## Pertaining to Bee Culture.

IT has been a long time since we sent our dollar and we haven't got the wonderful book yet that was to tell us how to get 200 lbs. of box honey, but we did get a letter from the lady saying the book was not yet printed ; and by the way is not that rather a queer fashion of advertising a book that tells how to do such great things so many months before it is printed. As our candy men gave us "nary a word" in reply to repeated postals, we finally wrote the P. M. at West View, O., that we should have to call T. O. Osborne & Co., humbugs in our paper if they did not respond in some shape, and this brought our 25c. back with an abusive letter saying *they too* were waiting for the printers to get them out a new edition, but that they wouldn't send us one at any price *now*. It is a very small matter indeed that we have got *our* 25 cents back ; what we wanted was to know whether they sent the "books" to anybody. We sent the money again and shall send some more from a different point, and when we *do* get the candy book we will tell you all about it.

Our friend Annie Saunders sends us a note that seems to indicate Mrs. Lizzie Cotton's circulars have gone down among our southern friends. See :

Mr. Charles McDermot, Baxter, Chicot Co., Arkansas, has a large number of bees and keeps them in the real old fogy style, but is *beginning* to want to do better, and is about to send $20.00 to a *lady* in Maine for a secret, *i. e.*, how to get 500 lbs. per hive. He is a good old gentleman, I think, and it is unfortunate that he knows nothing about scientific bee-keeping. He used to live here and I know him very well by reputation. His daughter told me today about the *secret.*

---

The questions I asked you about A. Gray, & Co., were not intended for publication, but it did them good. I received a letter from one of the parties stating he had shipped it and offering to help me look it up. I then sent to the express office and found it. I doubted their good intentions because they were so highly recommended by N. C. Mitchell.

D. L. BULER, South Fairfield, Mich.

[We are very glad indeed to hear that A. Gray & Co., have made good their delinquencies. When a firm advertise 500 extractors, 2000 queens, etc., one would naturally suppose they might answer a *registered* letter containing money—see page 128, vol. II—in less than 8 months. And by the way, this plan of advertising honey extractors, imported queens and supplies in general, that the advertiser hasn't got and never had, is rather a bad way, and one that will be very likely to bring trouble. We are getting pretty well acquainted with most of the advertisers of bee-keeper's supplies and hope we may be understood as having a friendly interest in the affairs of all concerned. As a general thing, responsible parties are at all times willing to have their business thoroughly ventilated when circumstances seem to demand it. An honest man has nothing to fear.

Complaints are at hand from C. O. Perrine, and his own letters are in our hands, giving a very bad impression indeed of his manner of doing business. The letter from him in the *A. B. J.*,--page 245, vol. XI—would, in our opinion, of itself condemn him, for a good business man *does not* quarrel with, or speak harshly of his customers. Mr. Muth, although he is quite largely in the honey trade, speaks in the kindest terms of all who have sent him honey, and they, when writing us, speak almost proudly of the prompt way in which he pays them up. The people have been abused, our own customers have been abused, and we wonder many times that they overlook blunders and delays as pleasantly and patiently as they do. Our verdict would be that it is *not* a hard matter at all, to please the average mass of humanity. Reader, what do you think of the idea? Be careful what reply you make, for it may tell the tale, as to whether you are above or below the average.]

## CALIFORNIA.

DEAR NOVICE;—Editors will take a great many liberties, and I guess it should be their privilege ; but I really did not intend you should publish my last letter to you which appeared in the Nov. No. of GLEANINGS, or there would surely not have been so many "big I's." You may put this one in however, and count on me in the future to give you—and the many readers of GLEANINGS—a good share of information in regard to bee business in Southern California.

I have often wished that you—and many others like you—could be here, where you could carry out any plan with bees that might enter your fertile brains. Here where no feeding for winter—winter quarters—hot-beds—glass houses, etc., etc., are ever needed—here where bees at the present date, Dec 15th. are building comb and rearing brood as they do with you in May. Here where—if properly managed—bees will store a large surplus for *nine months* in the year. Where there is no risk at all to run ; and where there is a great need of scientific bee men.

We need you badly to develop one of the greatest of California's resources—the honey producing. We have a great many "bee men" here, but few of them know much of the business, and consequently they do not develop the industry at all. Some few however, are true to the work and are doing wonders.

There was a great deal of bragging in that letter of mine you published in Nov., but I am very sanguine that I will do every thing therein claimed. The country and seasons here warrant me in it. Here, the bees commence to work on new bloom in Jan., and are in swarming condition in March. In April the black or button sage blooms and lasts until the white sage comes out which is the last of May. This lasts until the first of July, and is the greatest of all honey producing plants. The sumac blooms before white sage is gone, and lasts until the last of Aug. generally. So from swarming season until sumac is gone, we have fully three months of fine work for bees. Now, how much honey could you take with the extractor, if white clover was abundant for three months—to say nothing of your bees being *very* strong at commencement. Well, in the valleys there are many willows on river beds, which produce a great deal of honey and pollen the year round. Besides there is land which could be kept in buckwheat by irrigation, and thereby have an abundance of bloom until the first of Jan., about the time we have the first frost ; and even then I don't think frost will hurt buckwheat much. Bees can be moved very easily you know, a distance of 20 or 25 miles. Now, dear GLEANINGS, I won't tell you how I expect to make more honey from 200 colonies next year, than any other man in the U. S., but will leave you to guess.

I will tell you however how to move bees without any risk. We use the simplest form of Langstroth hive and think all other sensible bee men should do the same, for they are much cheaper and easier managed. Select the size of frame desired and make a box large enough to give $\frac{3}{8}$ inch space on sides and top, and $\frac{1}{2}$ on bottom of frame ; make a rabbet $\frac{7}{8}$x$\frac{5}{8}$ on top of each side—nail well together—loose bottom board with clamps 1 inch thick nailed on under side—loose top, a little wider than hive and 3 inches longer, with clamps 1$\frac{1}{2}$ inch wide on under side. Now Novice, this is just as good as your Simplicity—and a great deal more simple. So you see this is simplicity—simplified. As to size of frame—in cold countries a deep frame is needed, while here and in all warm climates, we only need about 8 inches in depth. I prefer a frame 8x15 inches—hive two stories—10 frames in bottom hive and 9 in top.

But I started to tell how to move bees. Well, make frames of board 1 inch thick by 3 inches broad, just the size of your hives. Halve the boards together at corners of frame, nail with wrought nails and cover frames with wire gauze. Fasten one of these frames on top and one on bottom of each hive to be moved. One screw in each end of frame is sufficient. The frames should be emptied of honey before moving and well secured, either with nails in each end of every frame—or by a strip of tin or wood with pieces of wood fastened to it the proper distance apart and right thickness to slip between the frames at each side.

These ventilators will afford plenty of circulation to prevent bees melting their combs, even in mid-day when the weather is quite warm. I have a two-horse wagon, arranged with half springs which will hold a ton, and a bed which holds 40 swarms, making it but a small job to move an apiary from one place to another.

I have a new, and I think *very* valuable method of increasing stocks, which I will give in next. Until then I am

AMATEUR.

Thanks friend A., we are glad to hear you prefer the L. frame. Your hive *is* a Simplicity hive according to our ideas.

# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
*Publisher and Proprietor,*
**Medina, O.**

**Published Monthly.**
**Established in 1873.**

**TERMS: $1.00 Per Annum in Advance; 3** *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

## Supplement to February No. 1876; and Ninth Edition Circular and Price List.

### OUR PRICE LIST FOR 1876.

IT is the 7th day of January, and we are so full of all kinds of business that we really have no time for any preface. Bee-keepers who are ready and willing to work for their honey, we believe are all busy, and are all so far as we know, realizing as fair a reward for the time and capital invested, as in other kinds of business. A few of the most keen and enterprising, are, as in all kinds of business, far outstripping the rest, and it rests with you alone, my friend, to determine what place in the ranks you will occupy. Just one piece of advice; however attractive the wares may seem that we are about to describe, we would say, don't get in debt for them; if you haven't the money to purchase, don't buy until you get it. Be humble and satisfied with little, and let your apiary grow of itself, and be self sustaining. I say this because I *really* do not wish you to be disappointed. If you study the subject and become thoroughly familiar with the bees by actual work among them, both capital and bees will come as fast as you are able to handle either. I want to see you all prosper, and to do so, you must be cheerful, courageous and independent; above all, don't get crazy and extravagant if you should happen to get $25 or $50, as the proceeds of one colony in a season; prosperity is sometimes harder to bear than adversity.

### Implements for the Apiary.

The very first thing to be considered in talking about implements, is the frame to be used; and I really do not know that I can advise you all what one to use, there are so many circumstances to be considered. If you have a dozen or more hives in use, that contain frames all alike, perhaps you had better keep on with them; if you are a new beginner, or have several kinds of hives all alike and wish to come down to one kind, I would advise the Standard frame, if you are going to use the extractor exclusively. If you want both comb and liquid honey, the two story Langstroth is perhaps as good as any. If you want exclusively comb honey, *perhaps* the Quinby hive will do as well as any. It can also be used for the extractor, but in our own apiary it takes so much more time to take out and replace the frames, that they are entirely out of the question. As others who use these hives largely, do not agree with us, perhaps those who are not satisfied had better try a Quinby hive with the closed end frames. As the frames are so much larger than the others, fewer are required to make a hive, and this in a measure compensates for the loss of time in handling; besides, a Quinby hive can be made cheaper than any other.

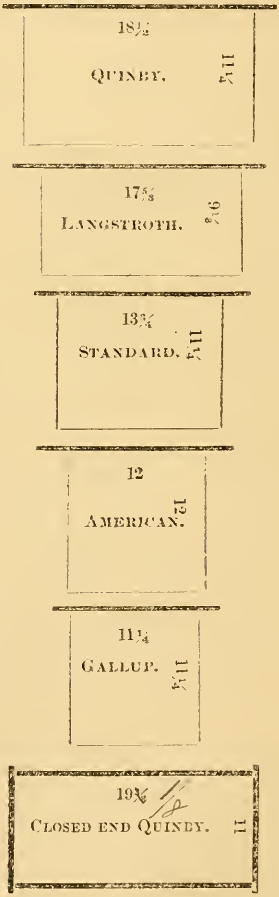
### Extractors.

One important point is that all machines to work to the best advantage, should be so made that the frame may hang in them just as it hangs in the hive, if we except the L. and Q. frames, and all having a length under the top bar greater than 14 inches. It may be impossible for us to give all the reasons for this now, but we hope you will take our word for it when we say there are very good reasons for standing a frame on end in the extractor when the length is much greater than the depth.

We have before explained that we have our castings made to fit two different sized cans, viz., 17 and 20 inches, and we will now further state that we make the cans also, of two different heights. To work nicely, the frame needs about the same amount of room to hang in the extractor, that it has in the hive; and to do this there seems to be no other way than to make every extractor to fit the hive it is intended for. Of course you can use them otherwise, but we are well satisfied that the cumbrous machines now in use, are many of them destined to be soon laid aside for the more modern kind.

DIAGRAM OF PRINCIPAL FRAMES IN USE.

*Figures given are outside dimensions in inches. Suspended frames have ¾ inch supporting arms, or an equal prolongation of top bar.*



The following table is for the convenience of those ordering machines, and is intended to enable any one to decide for himself exactly what he can use to the best advantage.

### Price List of Extractors.

[The figures in parentheses, just before the prices, give the exact *inside* width of the revolving frame of the extractor, *in inches*,]

| | | |
|---|---|---|
| No. 1. For the Gallup frame, or any frame 11½ inches wide and not more than 12½ deep | (12) | $8.50 |
| No. 2. For the American frame, or any one 12 inches wide and not more than 12½ deep | (12½) | 8.75 |
| No. 3. For any frame 12½ inches wide and not more than 12½ deep | (13) | 9.00 |
| No. 4. Standard Extractor, for any frame 13¾ wide and not more than 12½ deep | (14¼) | 9.00 |

The above are all in shallow cans, 17½ inches high, and are very convenient for placing at such a height as to allow of running the honey directly into the barrel or any other receptacle, and still not be too high for any one to work conveniently. The following numbers can also be used in the same way, unless the operator is short in stature; in that case, a shallow box may be inverted to stand on, but is somewhat inconvenient.

| | | |
|---|---|---|
| No. 5. This is made expressly for the Langstroth frame, which is to be used standing on end; it will take any frame whose top bar does not exceed 20 inches, and depth 9½ inches | (10) | $9.00 |
| No. 6. The same except that it will take a frame of 10½ inches in depth | (11) | 9.50 |
| No. 7. This is made expressly for the Quinby *suspended* frame, and will take also the other kind when the end bars have a depth not greater than 11 ½ inches | (12) | 10.00 |
| No. 8. This is for all Quinby frames, and all American frames having a depth greater than 12½ inches, and can be used for all the frames in our diagram, but is much more inconvenient than the smaller ones where they can be used | (12½) | 10.00 |
| No. 9. This machine is like No. 8, except that it takes a frame ½ inch wider, and is suitable for American frames that are 12½ wide and more than 12½ inches deep | (13) | 10.00 |
| No. 10. This is,the largest machine that we keep in stock, and will take a frame as wide as the Standard, and as long as the Quinby | (14¼) | 10.00 |

As many of our readers have our honey knives already, we do not include a knife at these prices.

All of the last six  tall cans—have a support at the bottom for the frames to rest upon, and also to hold broken pieces of comb, should it be desired. The four first have nothing of this kind, for it is not needed, and would in reality only make them heavier, and be in the way; we advise purchasers always to take the smaller machines when they will take their frames. For instance, we would much prefer the No. 4, to the No. 10, even if offered at the same price, provided we had nothing but the Standard frame in our apiary.

Although our machines are now made much lighter and stronger, the gearing very much improved in looks as well as in strength, an improvement added whereby once oiling will last for years, a cover and strainer added, and the prices reduced, yet we still make the proposal that we will, to any one, who has purchased one machine, give 10 per cent off on all he may sell after that; and this is all we can do in the way of furnishing them at wholesale. This offer refers only to extractors and honey knives.

### INSTRUCTIONS FOR USING AN EXTRACTOR.

Many of our new friends have asked for directions for using these machines, but really they are so simple, that it seems that little advice need be required. They are all ready for use when received, and most that is required is to screw them fast to some box or bench just high enough to allow the gate to run the honey into the bung-hole of a barrel. Do not undertake to work unless the bees are gathering honey, or you will be very likely to have trouble. The best time is when they are busy in the fields, and if the yield is good, you will hardly need any smoke. Carefully remove a frame from the hive, and then with a series of sudden jerks shake the bees in front of the hive or on top of the frames, as you may find most convenient. When you have shaken off as many as you can, take a bunch of asparagus tops, and gently brush off every bee in front of the hive. Now with the honey knife carefully cut the cappings from all capped cells; to do this quickly you will slide the knife under the caps in such a way as to have them come off in one entire sheet. In regard to straining the honey we know of no way that answers so well, all things considered, as to hang the little bag sent with the machine, in the bung of the barrel; this keeps it all close and tight from flies and dust, and when you stop work for a little while, it is all safe, without the necessity of covering anything up. Two such bags are really needed, so that one can be kept clean and ready to take the place of the other when it becomes filled with impurities. As the sediment always settles to the bottom of the bag, the sides work well as a strainer for a long time. Cloth strains honey more perfectly than the finest wire cloth can. When the comb is uncapped it is to be placed in the extractor; although you can extract one comb at a time if you choose, it is much better to have two, as they then balance each other, and the friction is less on the bearings, though our machines will stand the strain of the the heaviest combs, one at a time, if need be. Turn just fast enough, and no faster, to throw out the honey, and there will be no danger of throwing out the brood; you will soon learn this by practice. Combs so full of brood that there is but little room for honey had better be left in the hive; there is little to be gained by working very close, and should the honey season suddenly close, there is danger of the bees starving, as we have know them to do, even in July.

If your hives are kept close to the ground, and no weeds allowed to grow around the entrances, there is very little danger of losing queens while extracting; yet it is a very good plan to keep them carefully in mind, and if you should not see them, we think it a little safer to shake the combs that contain much brood, so that the bees fall directly into the hive. Losing queens while extracting, is rather expensive business.

After the honey is taken from one side of the comb, it is of course to be turned and the honey taken from the other side. Where the combs are very heavy and the honey very thick, it may be best to throw it out only partially the first time, and then reverse, to avoid crushing the comb into the wire cloth by the great centrifugal force resulting from such a weight at a rapid speed.

## THE METAL CORNERS.

### HOW TO MAKE THE FRAMES.

As metal cornered frames are now coming quite extensively into use, it may not be amiss to consider how best they are to be made. Our frames were first made of strips of straight grained pine, only ⅛ of an inch in thickness, and it is surprising to see how well such combs have stood. On one occasion a number of these heavily filled with honey fell from the top of a barrel, yet not a corner was injured, and not a comb broken; these were Gallup frames, however, only 11¼x11¼. For the Langstroth frames we now make the top bar about 10-32, and all the rest of the frame 7-32, the ends of the top bars are also tapered down to 7-32 where the top corners go on, as this is about the thickness of stuff that the corners are intended for. Standard, American, and Gallup frames are all made of 7-32 stuff throughout. The Quinby size may have a ⅜ top bar, but the bottom bars might all be not more than ⅛, were it not that the frames may be sometimes used for transferring, and that the weight of the combs would sag the bottom bar, which is a very bad feature, if we wish to work closely and avoid killing bees. The top bars would not require so much wood were it not that honey boxes are sometimes placed on them, and it is advisable to be on the safe side. When we depend entirely on the use of the extractor, we would prefer a space of half an inch between the ends of the frames; but for box honey, small bits of comb will be built in this space, more than will be the case if ⅜ only is allowed. It requires a *very* careful operator to work fast, and avoid pinching bees, when only ¼ or ⅜ inch is allowed.

The two following cuts may assist some in putting on the metal corners:

Fig. 1.

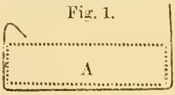


Fig. 2.

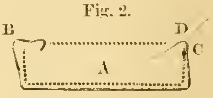


Figure 1, represents the points ready to be closed down and clinched into the wood, which is represented by the dotted lines A, A. Fig. 2, shows a point badly clinched at B, and one perfectly driven down at C. The line D, shows the direction in which the finishing blow of the hammer is to be given; in fact this blow should sink the metal slightly into the corner of the wood, drawing it up tight at the side C, and on no account letting it bulge out at B, nor allowing the point to curl up. A light, properly made hammer and a little practice will enable any one to make every point like C. Should you get one done badly, you can with a pair of plyers straighten it out and *make* it go right. The objection has frequently been made that this takes more time than to nail them; even if this were so, we are enabled to employ girls or other cheap help (we beg pardon ladies, but we never yet saw a community that did not furnish more or less females, who would be glad to get some such light work), who could not possibly nail good frames; then after they are done, their superior strength and lightness compared with nailed frames, fully makes up the difference in price. We will send you a sample frame by mail, just as we would have it for 15c. (12c. Standard size) including sample of rabbet and transferring clasp and you can test it by the side of your own frame in your hives. If the nailed ones do not seem awkward after using it, you, of course, need not invest any futher. See our price list for further particulars.

The metal corners were patented June 18th, 1872. This was done only to protect our business of manufacturing them. No rights have ever been offered for sale and probably never will be. Everybody is most welcome to make and use (for their *individual* benefit) everything we offer for sale, so far as we are concerned.

## BITS OF GOSSIP.

OUR queen cages are specially adapted to sending queens long distances, are easily opened and closed, and require no tacks or paper wads to do it. Another thing; the cage opens so that you can get at the queen without any guess work, and there are no corners for her to wedge herself into. Price, 12 cents by mail.

WE are manufacturing a Honey Gate; this differs from the ordinary Molasses Gate, in having a tinned surface all ready to solder into the can, instead of the ordinary screw thread cut in them. The upper part of the gate, where it projects inside the can, is left open, to facilitate the exit of the honey. In ordering, please specify whether you want them to put into wood, or to solder into metal cans.

IN answer to several enquiries, we reply that we have no difficulty at all with our machines in extracting from new combs partly built; even if they are attached only to the top bar; and we think a new swarm does all the better for having its combs emptied every other day, when the honey is coming in fast. So far as we can see, it does not interfere with comb building at all, and very much facilitates brood rearing.

IF there are any among our advertisers who are not prompt and trustworthy, let us know about it by all means, but rest assured that no names shall appear *in* print on such charges, until they have had every opportunity of showing their innocence. While we expect to make GLEANINGS a medium for exposing all frauds connected with bee culture, it shall by no means be used as a vehicle for venting spite, or for carrying on controversy.

WE mail GLEANINGS in time for each number to reach you by the first of the month, and if it fails to do so, please don't think it advisable to write unkind letters to us. We take great pride in handing you each number, and watch the mails nervously for a week after, to hear how well we have succeeded in pleasing you; we would not for any thing have any of you miss a number, yet not a month passes, without quite a number of complaints. After investigating, we find by far the larger number of complaints are caused by some other person of the same or nearly the same name taking them out of the office by mistake. Please ask your P. M. if such may not be the case, before writing us. If not, drop us a card, and we will cheerfully send any number that you have not received.

WE are frequently asked why our honey knives are $1,00, when good ones are offered for 50 cents each. It *is* true that a honey knife will answer about as well for uncapping when made with a blade about half the length of ours, and it will also *work* as well put hastily into a cheap wooden handle, as if put into one made of solid ebony nicely feruled, like our own. Do you know that you often take better care of a smooth nicely finished tool, than you do of a rough cheap one? Again, very often during the extracting season, you will need a thin bladed knife long enough to reach clear down to the bottom of the hive; this ours will do, and it is made so thin, and of such fine steel, that it will spring into a straight bladed knife with slight pressure, and without injury. Crooked pointed knives, it seems to us, are a great blunder, and we have tried in vain to use one; a knife like ours, that is sharp on both edges, and also on its rounded point, offers every facility, we think, for uncapping all sunken places in the combs.

IT may be there are valuable features found in the 12 or 18 dollar Extractors, not found in our own, but if such is the case, we are unable to appreciate them. We have added every improvement suggested that we thought would prove valuable, all things considered, and yet we find no great difficulty in furnishing them all crated and ready to ship, for the prices named. Any one who has carefully studied the matter will see that to make a machine capable of revolving four combs instead of two, will require an increase in size and weight, without very materially aiding in rapidity of work, among the masses. Reversing the combs inside the can, making the inside frame three cornered, running the machine by gearing or belts placed under the bottom, etc., etc., have had all their advocates, but we think have generally been, after a time, discarded like the revolving cans. Our friends can rest assured, that we shall spare no pains in promptly adopting any real improvement that may come up. Please *do* tell the dimensions of the frame or frames you use, in ordering.

## TABLE OF PREMIUMS.

Our reasons for deciding to offer presents are as follows: Many names are sent us out of pure good will, saying they think it a pleasure to assist and don't want recompense. Now it is some trouble to write a letter, pay postage, get a money order, etc., and we prefer to pay every one for such service; yet you know we can not send you 5 or 10 cents by mail *as pay*. But we can send something to your little girl or boy that will cost but little, and yet may please *them* more than a "whole dollar." You can count all subscriptions sent during the year, and back volumes, the same as the present one; as for instance, if two of you send for Vols. I, II, and III, each, it will make a club of 6, and will entitle you to any of the $1,00 articles, providing you pay 75 cents for each Vol. Where no premium is wanted we send all three Vol's for $2,00 including Lithograph. Designate by number what premium is wanted; if you leave it to us, we may send you something you have already. The first column is for subscriptions in clubs of not less than five, and the second for single subscriptoins.

### TABLE OF PREMIUMS.

| No. | *Names of Premium Articles.* *Any of them sent free on rec't of price.* | *Prices of Premiums* | *Number of Subscribers required at* 75c. | *or at* $1.00 |
|---|---|---|---|---|
| 1 | *Lithograph of Apiary, Implements, etc* | .25 | 5 | 2 |
| 2 | *Photograph of House Apiary* | .25 | 5 | 2 |
| 3 | "*That Present,*" (*Novice and Blue Eyes*) | 25 | 5 | 2 |
| 4 | *Small Horseshoe Magnet, a scientific toy* | 25 | 5 | 2 |
| 5 | *Emerson's Binder for* GLEANINGS, *will hold 4 Volumes* | .50 | 6 | 3 |
| 6 | " " *better quality* | .60 | 7 | 3 |
| 7 | *Pocket Magnifying Glass* | .60 | 7 | 3 |
| 8 | *First or second Volume of* GLEANINGS | .75 | 8 | 4 |
| 9 | *Best quality Emerson's Binder for* GLEANINGS | .75 | 8 | 4 |
| 10 | *Double Lens Magnifier, on 3 brass feet* | 1,00 | 9 | 4 |
| 11 | *Photo Medley, Bee-Keepers of America* | 1,00 | 9 | 4 |
| 12 | *First and second Vol. of* GLEANINGS | 1,50 | 10 | 6 |
| 13 | *A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box* | 3,50 | 20 | 8 |

## Implements for the Apiary.

In presenting this list, we would remark that we have carefully thrown out or remodeled every thing found in any way defective, and we offer nothing that we not approve of and use in our own apiary.

We can ship promptly, by Freight, Express or Mail, (none mailable except those designated) goods mentioned in the following list. Hives, Extractors, etc., can be sent much cheaper by freight, but in this case they should be ordered three or four weeks before needed, if the distance is considerable. During the months of April, May and June, orders may sometimes be delayed several days, but our customers may rely upon receiving notice at once on receipt of all remittances.

At the prices given below, cash *must accompany every order*; as the sending of goods C. O. D., entails an additional expense, and goods sometimes fail to be taken, we really dislike to send goods thus, but if you are content to pay from 25 cents to $1,00 to the express company, for bringing us the money (which could be sent by P. O. order for 10 cents) we will send them C. O. D. when $1.00 is advanced. When hives or frames are ordered in quantities, the additional expense of boxing is such that we can make no better rates on large orders. Orders for frames or hives of dimensions differing from those named, will also be liable to some additional delay, especially during the "Honey months."

# PRICE LIST.

As much diversity of opinion still exists regarding hives, so far as size and shape are concerned, we shall still furnish the five different shapes of "Dollar Hives," as described in our circular for 1874, which will still be mailed on application. In addition to these, we this season offer the Quinby hive.

MR. QUINBY said in the *Am. Agriculturist*, about one year ago, that he would prefer a half inch hive to one of any greater thickness; and we have so much reason to think him right that we shall offer hives made of half inch—or less—pine this season. They are made on a new principle that offers many advantages in manipulation and no nails of any kind are used in their construction. Any one that can put on the Metal Corners can put a hive together complete, and they are so light that a hive to hold 10 L. frames, does not weigh to exceed 5 lbs., or about 8 lbs. with frames and quilt complete. Prices will be the same as for our usual hives made of ⅞ lumber, viz., two story hive complete, $3,50. The upper story will be arranged with frames the same as the lower, or will be filled with section boxes containing comb foundation guides, as may be desired. When arranged with frames either half of the hive makes a complete one story hive, if a broad board be provided for a bottom for them to stand on. We will furnish hives at the same prices for any of the frames mentioned, but shall only keep the L. size regularly in stock. To give a perfect idea of the working of these new principle hives, we will send a complete 3 frame Gallup hive by mail for $1,50; this will contain four of the new section honey boxes in place, as they are to be used, Printed instructions with diagrams and directions for using will be pasted on the cover of each hive, and we hope to be able to make every thing perfectly plain even to the uninitiated. We will send a hive composed of 3 closed end Quinby frames, sufficient to illustrate the manner of working the hive for the same price. Either by Express, $1,00.

Sixteen frame Q. Hive, or 8 frames and 48 section boxes ........................................$3,50
Section Honey Boxes with comb foundation guides, capacity from 1 to 2 lbs., each ........................02

The expense of shipping will be very much less when these hives are sent in pieces, but as they are easily put together, the price will be the same in either case.

Frames of any desired dimensions, with Metal Corners ........................................06
Sample frame with section of metal rabbet, including sample of transferring clasps, (by mail)...15

To save the expense of shipping so great a bulk, frames will be packed ready to be put together, unless hives to contain them are to be sent made up, but the price will be the same in either case.

Metal Corners put up in packages of 100, *i. e.*, enough for 25 frames, (by mail 20 cts. extra)....$1.00
Per 1000........................................9.00
Per 10,000........................................80.00
Bottom Corners alone, per 100...........75c; 1000, $6.00
Per 10,000........................................$50,00
Cast Iron Blocks for putting Metal Cornered frames together, (by mail 10 cts. extra)..............15

With every order for 100 frames or more, one of the above will be included without charge.

Rabbets for frames to rest on, made of folded strips of metal, per running foot, (by mail 2c extra) 02

Folding the strips adds greatly to the strength, besides furnishing a smooth, hard surface for the end of the frame to strike when replacing it, and preventing the bees gumming the projecting ends of the frames, as well as the supporting edge. In ordering, name *length* desired.

Quilts for any of the hives mentioned, (by mail 6 cents extra)........................................25
The same double width........................................40
" " triple width........................................60
Metal Clasps for transferring, package of 100, (by mail 10 cents extra)........................................25

These are made to fit our frames or any other just ⅞ of an inch.

Novice's Honey Knife by mail........................$1.00
Half dozen, by express........................................5.00

We will add that our Honey Knives are sufficiently keen and sharp to uncap honey with facility, without resorting to water, either hot or cold. The handle is of Ebony, and the whole is very strong and finely finished.

Beautiful Honey Labels, in blue and gold, dark bronze and gold, or in white printed in two colors, furnished with your own address, and source from which the honey was gathered, already gummed, post-paid by mail, (no order rec'd for less than 250), 1000, $3.25; 500, $2.40; 250, $1.89

At these unusually low rates, the full number mentioned *must* be ordered without the change of one single letter of the type; if you order 1000 and want them to mention four different sources of honey, the price will have to be $7.20 instead of $3.25. Samples of all three on application.

Quinby Smoker, (until we can make a better) by mail. $1.50

Tinned iron hoops made expressly to go around top of can for Extractor, two sizes, 17 and 20 inch, each 50 cents, per dozen........................$5.00
Gearing for Extractor, including all castings to fasten it to the can (by mail 40 cts. extra)........1.50

In ordering Extractors, castings, or inside work, give *outside* dimensions of frame or frames to be used in them.

With inside revolving frame and steel pivots, bearings, wire cloth, and all except the Can.....5.00
Galvanized iron wire cloth, made expressly for Extractors, per square foot, (by mail 5 cts. extra)..15
Fine tinned wire cloth for queen cages, same price.
Honey Gates for Extractors (by mail 20c. extra).....50
Superior White Oak barrels for honey, hold 375 lbs..2.50
The same waxed and painted........................4.00
Spring Balances, a nice article........................8.00

These scales are made weather proof and when arranged to suspend a moderate sized colony, may be left out all summer; as the figures on the dial are plain and large, we can see at a distance the average yield of honey per stock, each day or *hour* even; when weighing stocks for winter, they shorten the work very materially.

Scissors for clipping queen's wings. These are small, fine steel and very fine pointed, by mail.....40
Lithograph of Apiary, Implements, etc., by mail....30
Alsike Clover seed, *the best*, less than 10 lbs. per lb..35
" " " " " over " ".....30
" " " " " by mail, postpaid ".....50
Summer Rape seed, per lb., by mail, in cloth bag....37
" " " " " by express................15
Chinese Mustard seed, our own importation. Per oz., 25
Queen Register Cards, (for description and illustration see cover of June No., Vol. II), per doz....10
Lamp Nursery for hatching queen cells............$5.00

This is a double hive made of tin, with a space beneath the walls to hold water. A lamp keeps the water at any desired temperature at an expense of about *one cent* per day. Without a doubt, the machine would hatch eggs, (*perhaps* it would also scratch food for the chickens) we haven't yet tried it, but it hatches every thing in the "bee line" quite satisfactorily. See description in Vol. I, page 74. In ordering, give accurately length of top bar to frame.

Queen Cages, (see cover to June No.) each by mail ..12
Galvanized tacks, just the thing for the Apiary, (by mail 2 cts. extra)........................................10
Thermometers (by mail 3 cts. extra)........................40
Medley of Photo's of Bee-Keepers, size 11x14.....$1.00
Bee Veils, see cover to May No., Vol. II, and page 2, Vol. 1), by mail........................................75
Wax Extractor, for description see April No. of Vol. II........................................3.50
Small Larvæ for queen rearing, by mail..............25

These can only succeed in warm weather, say June, July, Aug. and Sept. The piece of comb containing them will be safely packed in a wooden box.

Artificial Comb Foundations, we can furnish at present for $1,00 per lb.; as soon as we are able to do better we will advise. For very light thin sheets of bleached wax, perhaps the above price is not too high, but the heavy dark sheets for the brood apartment, certainly should not be over 75 cents.

### BEE-FEEDERS.

So perfectly satisfied are we that pure candy is all that can ever be needed for feeding bees, under any circumstances, whether for out-door or in-door feeding, or in any kind of hive, that we have been rash enough to throw feeders of every kind out of our price list. Not only are the bees healthier, but they require far less food than when fed on any kind of liquid stores, and the labor is very much less. Candy that is slightly burned, if fed in cold weather, is sometimes fatal to the bees, and to avoid any possibility of such an occurrence, we would advise pure rock candy, which is in fact the purest shape in which sugar can be obtained. We are prepared to furnish a nice article of candy at all times and in either large or small quantities at 15 cents per lb. As rock candy is quoted at 16 cts. wholesale, it may be difficult for us to afford it at 15 cents, but we shall try hard. It is always dry to handle we believe, and never sticky like the other candy; in case we can not make it at 15 cents, we shall send a nice article of the other.

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*We always consider it an especial favor to have customers inform us by postal card whether goods are satisfactory; whether our mode of packing is efficient; time taken in transit; whether Express or Freight charges were reasonable, etc., etc.*

*Respectfully, A. I. Root, Medina, O.*

# Heads of Grain,

## FROM DIFFERENT FIELDS.

I BEGAN the season with 56 swarms out of 68 that I put up the fall before. The loss, I attribute mostly to defective queens. I increased to 82 swarms and obtained 3,200 lbs of box honey and 300 lbs extracted; the box honey was mostly in Quinby glass boxes. I sold it at 20c per lb, gross weight. I have been trying eleven Quinby hives the past season, and think, with proper management, they would be a good hive for box honey, but think them large and clumsy to handle for indoor wintering. In two of them, the bees filled their hive with comb and honey, and stored 125 lbs of box honey each. I think bees are inclined to work in top boxes first; but when honey is plenty and they are crowded for room, side boxes seem an advantage. I have two Quinby hives on their summer stands, packed with chaff as Mr. Quinby directed, but have not much faith in them for such a winter as we had one year ago. I want some more hooks, such as Mr. Q. used on the corners of his hive. Of whom can I get them? Yours,

W. H. TENANT.

Eureka, Winnebago Co., Wis., Dec. 13th, 1875.

We think the above a very fair statement of the way in which the bees go to work in side and top boxes, as a general thing; of course there will be exceptions, for one colony of bees will occasionally behave quite differently from another. The most recent way is to take only the *frames* of the Quinby hive in-doors, leaving the hive on the summer stand. Six frames will contain the stores and bees for a very large colony. You can get the corner irons of L. C. Root, Mr. Quinby's former partner. See his advertisement.

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My way of introducing queens: Make a cage by rolling up a piece of wire cloth, as usual, put a cork in one end and sponge in the other with a string fastened securely to each. Saturate the sponge with honey. Now hold a piece of honey comb before the hive wanting the queen, until you have a number of bees clustered on it; take them into the house, and after they have taken all the honey they want they will fly to the window. Catch and put them into the cage with the queen, take them to the hive, spread the combs, put in the cage, draw out both strings one at each side of hive below honey board on quilt. Let it stand 24 hours, then pull out the sponge by its string, holding fast the other string. Feed the bees liberally for a few days and don't open the hive for four or five days after. How are the frames kept straight up to the wire cloth in your extractor?

JOHN DAWSON, Pontiac, Mich.

It is our impression that if you should thus secure a pint of bees or more, and get them on the window or any where so they would feel lost, they would peaceably accept any queen; and your plan of releasing them, under some circumstances, would doubtless be an advantage. We should hesitate to advise leaving a valuable queen four or five days without looking after her; they are liable to be enclosed in a cluster and killed, no matter how they are introduced.

The suspended frames rest against the wire cloth of their own accord; the others are *held* nearly up, and as soon as the machine is started, are properly in place.

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Last spring I took, on shares, 35 swarms of bees; from which I extracted 2,500 lbs, and took 1,000 lbs box honey, having in the fall, to put up for wintering, 44 new swarms. Extracted honey sells here for 15c per lb, box honey 20c. Seven years ago I was overrun by toads; it was no uncommon occurrence to see three or four around one hive. I watched them closely and soon discovered they were catching the bees very fast. I then drove them off, but they soon returned, and I finally had to kill them to save the bees. There is no mistake about this, for I tried to make myself believe they did no harm. But, seeing is believing, and witnessing I know whereof I speak.

L. WEBSTER, Winneconne, Wis.

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### UNITING COLONIES.

DEAR NOVICE:—In Dec. No. of GLEANINGS you mention uniting colonies by simply lifting from one hive into another, in *cool* weather. Let me add a word of caution, not to you, but to your readers. I have done the same thing, in more than one instance, and succeeded perfectly, and again I have failed. As I am not *sure* I know the reason for the difference, I will be content with giving the fact. A year ago, I wanted to unite two weak colonies, and on a cold day, I carefully lifted the contents of one hive and put it in the other. Shortly after, I noticed that stung bees were crawling out to die, and I took cover and cloth off the hive and left them thus for hours, hoping to cool them down (it was too cold for them to fly,) so that when covered up they would be all right. But it was no use. The slaughter continued, and I think one of the colonies was entirely destroyed.

### FOUNDATIONS OF PLAIN WAX SHEETS.

You ask, "who has tried them?" I have. Some that I have tried have worked perfectly, and if I did not care whether the cells were drone or worker, I would just as soon have these plain foundations as the pressed ones. But others did not work so well. I don't know what made the difference. One foundation has been in a hive three years, and the bees worked out the cells on one side of it, but refused to touch the other side; and finally (I think not till this year,) they have hung a thin sheet of comb beside it, leaving the flat surface of wax on my foundation untouched. I used some strips of plain sheets this year. as comb guides, and I noticed that some of them were not worked, the bees merely attaching their comb to the lower edge of the strips. I have had a frame in use three years, having for part of its foundation a piece of paper dipped in melted wax, not pressed or stamped in any way; and this summer when I extracted the honey from it, I could read the printed letters on the paper. In other cases they have gnawed out the paper.

### STINGS.

I don't think you meant it so, but there might appear just a suspicion of unkindness in your reply to Mr. Hudson, as to the best remedy for stings. Whilst your reply might be the right one for 19 out of 20, for the 20th it might be an unwise if not an unkind one. Last Thanksgiving I spent part of the day in changing a wet cloth on my wife's arm, to make the pain of a sting more endurable. The sting was more than a day old, and at the same time I had several stings on my neck and hand not half so old, and yet by that time I could not tell which hand was stung. Now, while it might be well enough to say to me "get the stings out and go on with your work," it would be cruel to say so to her, for a single sting has closed both her eyes and kept her in bed for a day or more.

To any one who suffers specially from bee stings, perhaps the most important advice is *not* to use the part stung. A sting upon the hand, which, by not using the hand might pass away in a little while, with little or no swelling, may, if the hand be much used, become badly swollen and very painful. A sting will itch, and you will want to scratch, but don't. If you want to see what a sting *can* do in the way of swelling, just scratch. Wet clay or mud applied to a sting will often give relief. A single thickness of wet cloth, changed often, is good.

B. LUNDERER.

We stand corrected, but think the exceptions rare in both cases. We agree with you in regard to letting the swollen hand rest, and when we say "go on with your work" we do not mean to advise aggravating the swelling by any kind of exercise that irritates the affected part. If cold water gives relief use it by all means, but it certainly brings no alleviation on our own person. We could almost fill a number of GLEANINGS with a list of the liniments, etc., that are said to be good, but as we can find no *good* evidence in favor of any of them, we must decline giving them room.

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The strips of comb foundations you furnished me, I placed in about third comb from side of hive in brood apartment. In every instance they were finished out below with drone comb.

THOMAS PIERSON, Ghent, O.

If the Alsike seed I received from you was from same lot as Mr. E. Loer's he certainly is mistaken as to sorrel in it, as my seed came up pure Alsike, and the sorrel forgot to germinate. There is "nary a stalk of sorrel." Bees are wintering so far very well.

I am yours, truly,
Light Street, Pa., Jan. 17, '76. H. H. BROWN.

Enclosed find a cake of candy which I find my bees like—¼ lb. honey, 2 lbs. white A sugar and a little water—boil slowly. I intend to increase my stock of bees next season. I am advanced in age and can give my attention to them without detriment to other matters. I have kept bees at three different times in my life in *boxes* but slipped off into "Blasted Hopes" every time. I think I can succeed, although my neighbors cry humbug.

N. A. PRUDDEN, Ann Arbor, Mich.

The candy is very nice, and has the well remembered flavor of the fireweed honey that we tasted in Mich. last fall. Confectionery might be flavored with honey in this manner so as to give quite an interesting variety, and it would be a novelty to bee-keepers at least.

Which would be best and cheapest, to Italianize an apiary in the spring? to buy a colony of Italians and raise my own queens (I have never done anything of the kind)? or buy queens? I have 38 colonies of blacks.

H. C. GILSON, Burr Oak, Mich.

If you are without practice, by far the better way will be to get one or two $1.00 queens, and work with them this season; next season you might try an imported mother. This will be slow it is true, but it may be the quickest way after all, for if you buy 38 queens at once, or even an imported one, you will stand a very fair chance of being a candidate for "Blasted Hopes" next season.

The candy that you sent me came to hand in due time, and in good condition. It was somewhat broken up, but that did not injure it for the bees. I have given it a trial, axd find that it works to a charm. I consider it just the thing to feed at this season of the year. The manner in which the bees eat it is novel indeed; instead of working on the outside of the stick, they gnaw holes into it, and eat out the inside first, leaving nothing but a very thin shell. I have my bees snugly packed away in a dry cellar, the average temperature of which is about 42° Ft. They are doing finely at present. The only fear I have about them is that they will run short of provisions before spring opens.

A. C. PEAVEY, Epworth, Iowa, Jan. 17, '76.

I need information in regard to transferring bees, and thought to write you for King's Bee-Keepers' Text Book, as my bees though thrifty, are all in box hives.

B. FRANK INGISON, West Monroe, N. Y.

The text book is old, and we must regard it, as well as other books that recommend the awkward and laborious process of drumming the bees out, in place of the modern plan described in our May No. of last year, as much behind the times. The bees should keep right on with their work, and the whole operation may be performed in the time usually occupied in drumming them out.

Just two hours after posting your letter, up comes the mail from San Francisco, and by the way the medley and the queen cage were about the first articles delivered; of course GLEANINGS was not to be had until the day following. I am much pleased with the medley; but I think it would have lookeed much better had my photo been in it. GLEANINGS arrived in splendid order, not a single leaf soiled. You don't know how proud I am when I receive goods in such good condition, for I have suffered a great deal through the bungling manner in which some folks send out their goods. Our Commissioner will not leave here before the middle of Nov. He will sail in one of the new line of steamers, and will arrive in San Francisco about the middle of Dec.; so if Mr. Dadant would like to try his hand at sending out a couple of queens, he had better prepare them and advise the Commissioner at the Prairie Farmer office. He will carry dollars enough to do all I want. J. CARROLL, Queensland, Australia.

Do you know anything about the Silver Hull buckwheat, whether it is any better for honey than the common sort?

J. B. REEVE.

We have had few reports in regard to the buckwheat, but have the impression that to get honey we must have a good strong growth; and in our locality and some others it is only occasionally that we have a yield of honey even then. The bees may be very busy on it apparently, and yet a suspended hive show no increase in weight. See the following:

I see on page 12, that Mr. M. E. McMaster would like to know if the black buckwheat is better for honey than the gray kind. There is very little difference in the two kinds, but if he will try the Silver Hull I think he will be astonished. I had the black and the gray, but the yield of honey was small. Two years ago I procured the Silver Hull and when in full bloom it was so full of bees that some of my neighbors were afraid to go near the field. Last fall my bees did rush out of their hives in the morning, to go after the Silver Hull buckwheat like a large crowd of people rushing out of a burning theater.

D. N. KERN, Shimersville, Pa.

Most writers on Bees say that when a young queen is hatched she will destroy all unhatched queens in the hive. Now we (I mean my wife and I,) had a glass observatory hive last summer with one comb. We could see all operations of the hive, and had it so arranged that the bees could go out under the window—the hive setting in the house on the window sill. A number of queens were hatched in it. We several times saw young queens come out and crawl from one end to the other of combs containing a number of unhatched queencells, yet paying no attention to them, while at the same time worker bees were busy tearing them down. Now, has any one ever seen a queen tearing down cells? or, is it only a supposition?

J. B. REEVE, Shelbyville, Ills.

Queens sometimes destroy the cells we know, for we have seen them do it in the lamp nursery when not one worker bee was present; but it looks very much as if the bees at times destroy them before the queen has seen them at all, just as they demolish cells they have previously started when a fertile queen is given them. We have seen the same thing you mention, but the cells were finally destroyed after the queen became two or three days old. This work, like the swarming impulse, we think sometimes originates with the queen and sometimes with the workers, and perhaps at times with both conjointly, for they are generally actuated by the same impulses.

What advantage has the Standard hive over the Langstroth? What would the right to make for my own use cost?

J. M. WICKOFF, Freestone, O.

The principal advantage is, that it will hold 20 frames and yet allow any one at any time to be removed independently of the others. Adair and some others claimed the bees would store more honey in such a hive; we believe it is now generally agreed that frames spread out horizontally, on the average, give just as much honey as the two-story hives, and no more. We certainly would not charge you for GLEANINGS, and then use its pages to describe hives on which we wanted money for rights. Everything described on these pages is free, of course.

I have a house apiary also, which I am using with good success. Inclosed I send you an outside view of one of my houses, containing 56 colonies of bees. This house is not patented. I have now seven in use; some much larger than this. I have always been very successful in queen raising.

N. W. WALTON, Cairo, W. Va.

The picture shows a very neat structure, and if our friend has *seven* of them in use, he certainly has had experience with them, and that too, we would infer, of a favorable nature.

Gleanings came by return mail, and there is some satisfaction in having things come as promptly as they do from your shop. But we wish to enter a protest against your method of trying things. We take it that your trial of the cold frame proves very little, for or against the claims of the originator. You did not use the cold frame according to the directions of the originator, if *I* read aright. Now, I think your trial of the house apiary is a little the same. Thus far your management is about in accordance with Faulkner's directions, and the condition of your bees seems to be very satisfactory. Faulkner claims that he controls the temperature of his house by his plan of ventilation, and by that means, in connection with his plan of manipulating the hives, controls swarming.

Your house and Faulkner's are about the same at present, but when hot weather comes they will be different. If you can control swarming with your house it will be strong evidence against the utility of his ventilators. But if your bees swarm as usual, will that be any evidence against *Faulkner's* house? I think not.

About midnight, in forepart of last May, I landed on the wharf at Vevay. The next morning I obtained the names of several bee-keepers from a grocer, (my object was to learn something about the honey resources of southern Ind.) and accidentally called on Wm. Faulkner. I found him to be rather a feeble looking old man, who seemed to give nearly all his time to the care of bees and the manufacture of honey boxes. After talking to him for some time and taking a look at his house apiary, I was surprised that I had never read any thing in the bee papers about Wm. Faulkner or his house apiary. His house, hives and fixtures look somewhat complicated on paper, but they are very simple in use. I like the house so well that I have been very much dissatisfied with my hives ever since. R. M. Reynolds,

East Springfield, O., Jan 14th, 1876.

We believe we gave the cold frame a faithful test in all things, except covering the glass with boards and straw; and as this part of the programme converts the cold frame into little else than a cellar or cave, except that it is very much more expensive, we thought we were excusable for hesitating to sacrifice any more bees; especially as a large number of letters were received detailing just such losses as ours, when they followed all the "instructions." It is to be remembered also, that even Mr. Bidwell himself stated at a convention, that the cold frame did not prevent the bees from getting "sick." As the only sick bees we had last spring were those under the glass, and as we could discover no way of preventing the dampness that seems to be a necessary feature of all cold frames, did we not carry the experiment far enough?

Mr. Faulkner's house, as described in *A. B. J.*, is elevated 1½ inches from the cellar walls, and the effect of this, in our opinion, would amount to no cellar at all. Perhaps *this* idea is patented; it is to keep out "ants" we are told, and this reminds us of the following, just at hand:

> Now, about the house apiary. Certainly your bees will winter in it such a mild season as this, for in fact they would winter anywhere. But let me caution you. The moths will destroy your bees before any cold weather does. Moths! moths! moths! I am afraid will be the cry. I once knew a man who had 60 hives; they had done so well for him, he said he was going to build a house for them. He did so, and in 2 years he had not a bee on the place. The millers at night were soon thicker than the bees in the daytime.
>
> Marcus D. Dubois, Newburgh, N. Y.

We think we can imagine the amused expression that pervades the countenances of most of our readers, when told that ants and moths are going to contest for our hard earnings; surely friend D., you are jesting. Our house apiary was stocked in July and as the colonies were all weak, the moths had ample field, and in fact a few *were* seen during the hot weather in August; but bless you! there were no cracks or crevices left in our house to harbor them. The Italians drove them out of the hives in a trice, and if they sought a lodging place on the smooth papered walls of our room, we, broom in hand, soon convinced both them and the spiders that that precise locality was anything but a healthy one for rising generations. Our most persuasive argument for ant hills is Mrs. R.'s tea-kettle of boiling water.

During the warm weather in Aug. we were unable to discover any need of ventilators whatever, and during the zero freezes this winter we have been of the same opinion; yet the patent men continue to dwell largely on the subject. If the house *should* get too warm during the swarming season, and we should think best to open the large trap door in the centre of the floor to get the benefit of the cool air from the cellar, does anybody think we should buy a right for the privilege of so doing? Bee-keepers will probably have as many notions in the construction of house apiaries as they have in hives, yet if we understand Mr. Faulkner in *A. B. J.*, he threatens prosecution to any who put "any kind of a hive" in a house and permit the bees to pass out through the walls. We believe the time has come when we may safely class individual rights with ants and moth millers.

By following the directions in last Gleanings I succeeded to a T. No accident, made a nice lot of it—meaning candy. Henry Daniels, Plainville, N. H.

My bees have not done so well as last season. I started with about 40 good colonies and 4 weak ones. Got about 3,000 lbs, mostly box honey. Increased to 100. Late cold spring and early cold fall was bad for the business. Am wintering 115 colonies in my cellar; doing well so far.

P. D. Bassford, Watertown, Wis., Dec. 13, 1875.

I should like very much to obtain some seed of the golden rod, as there is nothing of the kind in this section. I have tried borage from seed. I obtained it from New York last winter, and find no very great advantage in it. I intend to try it again from seed gathered last summer. There is in this neighborhood what is termed wild cucumber, on which the bees work industriously.

Joseph Mason, Hazel Green, Wis., Dec. 20, 1875.

I have succeeded this year quite satisfactorily with a start of 12 colonies of bees. Have sold $100.00 worth, taken 900 lbs of honey, and put up for wintering 20 colonies. Twelve on summer stands and 4 in a bee house with double walls, 4 inches filled with over 60 bushels of sawdust, and double door. Have 4 in my cellar. So far the weather has been very favorable. scarcely any snow and but little time that plows have not been running. The early part of fall was very dry, the latter very wet. Honey sells here at wholesale for 25c. extracted, comb 35c.

Edward Stevenson.

Salt Lake City, Utah, Dec. 24, 1875.

I agree with you in regard to the light colored bees, on page 153, Dec. No. A couple of friends called to see me Sept. the 17th, at that time my bees were very scant in honey; one said if his bees were so light in honey he would feel alarmed about them, I said I would wait two weeks, if they did not fill up in that time I would feed them; my object was to test the light bees with the dark ones in gathering honey. My light colored were the strongest colonies. About Oct. 13th, there was a heavy frost that stopped all honey gathering; my dark bees had gathered honey enough, and some to spare to keep the yellow fancy bees from starving this winter. If all light bees are like these, my advice is this: if you want to keep bees with satisfaction and pay, keep the dark leather colored. I had a colony of Italian bees at our county fair last fall, had them flying among the crowd, did not use any smoker in handling them and no person was stung that I know of. The queen was bred from Argo's stock of bees. We got a colony of bees from Mr. Argo three years ago; they were genuine, and the nicest bees to handle I ever had. J. M. C. Taylor.

Lewiston, Md,, Dec, 21st, 1875.

I have a bearing orchard I wish to set in grass, something that will be an advantage to bees and no detriment to my orchard. I am a beginner in bee culture, and ask your advice as to what would be best to sow in my orchard. Eli Ketner, Oskaloosa, Iowa.

Will some of our fruit-growing readers please answer Mr. K.? Alsike would benefit the bees, but would not a heavy growth, such as we must have to yield honey, prove detrimental to the fruit? We would not undertake to raise any plant for honey unless of value otherwise. The honey is liable to be a failure at times, we believe, with all plants.

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I want to know through Gleanings if your populous stocks are the result of a change of queens?

I am most happy to state that I sold out all my honey [Linden] to Barber & Stout, Cincinnati, O., at 13 cents, and was again paid to a cent.

J. Dyffeler, Wequiock, Wis., Jan. 18th, '75.

The queens have very much to do with it, for colonies that are strong one season are pretty sure to live and be strong as long as the queen lives. We, in '73, raised queens in June for 4 hives all in a row; all have been quite ahead of the general average both seasons since. They were from the Nunn importation. Other causes of course have their influence, but the queen we regard as the principal.

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Mr. Winkle tells me that a few days ago he took from the cellar a stand of his bees to let them have a fly, and took a look inside, finding brood in all stages. I was surprised. This will make the same as 12 subscribers, sent you. I wonder at my success, don't you?

Jan. 19th. '76. D. Patterson, Algona, N. Y.

With the weather we have had, it is rather probable that brood is to be found in all hives, and we have little idea what the effect will be; probably the bees know what is proper to be done. We sometimes wonder at the success of both our patrons and ourselves, especially after each fresh blunder that *we* make.

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Lithograph of apiary rec'd. We are well pleased with it. We fancy the little baby to be seen there is Blue Eyes. Our little baby twenty months old will point her out every time asked. We had left last spring after sending Mr. Langstroth a stock, 14 stocks of bees. We increased to 35 and secured 610 lbs. extracted honey and 90 lbs. box honey. Total 700 lbs. Average 50 lbs. per stock. Bees put into cellar Oct. 29th; doing well so far. We are glad to see different ones testing the house apiaries, the question may then be better settled. We supplied 13 stocks with coffee A sugar syrup one autumn and they died as badly as any. Fed in Sept. We can't see that it will pay to extract honey and feed syrup at present price of each, and of labor. But I am convinced that it will pay to set bees in doors in spring, when we have a cold spell. Two cts. per stock will be the cost of moving into a cellar and out again. What bee-keeper but would have made $2,00 per stock last spring by putting his bees in a cellar during the April freeze. F. A. Snell.

Milledgeville, Ills., Jan. 17th, '76.

It is quite probable that even coffee sugar will not always work, and we are very much inclined to think, friend S., that carrying them in-doors will not either; in fact, we are very much tempted of late to doubt that it is any advantage if your hives are full of bees as they should be. Beautiful thick syrup can be made for 8 cents per lb, while your honey will certainly sell for from 13 to 15 by the barrel. Besides, we don't make syrup to feed bees nowadays, just give them sticks of candy, which will be scarcely more labor than to give your poultry some ears of corn, and you have to shell it for the chickens and don't for the bees. However, we hope no one will understand that we favor robbing the bees so far that there is any danger of their starving.

From some sixty stocks last spring I have taken nearly 3000 lbs. of box honey, and more than doubled my stocks. I use a movable frame hive with single card boxes weighing 2½ to 3 lbs. Wintered my bees on their summer stands last winter without losing a swarm.

Samuel Snow, Fayetteville, N. Y., Jan. 20th, '76.

Many bees *do* winter safely thus, even during our severest winters, and as the reports come in, we cannot help wondering whether the old straw hive with no protection, would not average *almost* as well as those that have *so much* care.

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Will the thin strip in your sample frame work as well in securing straight combs as the triangular piece heretofore used? If so I shall adopt it in new frames. I found during the season that I could not use the Quinby frames with the closed ends and foot resting upon bottom board, without killing more or less bees every time the hive was opened. Was it because I was not an expert, or, was it unavoidable? if the latter, is it peculiar to Quinby frames?

E. W. Griswold, Center Brook. Conn.

The thin strips for comb guides are really much better than the triangular pieces, inasmuch as the bees build cells and store honey right over them clear up to the top bar. The trouble mentioned is peculiar to the Quinby hive, but we presume practice does much toward remedying it. There are some among our readers who say they can handle them with little more trouble than the suspended frames.

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Honey harvest was very poor. In the early part of the season, we had nothing but white clover, and in fall only the corn fields; no red clover. I fed one colony $4,00 worth of sugar to see what they would do, and from that hive I have three colonies and have sold $6,00 worth of box honey. I think Mr. Stauffer's plan for wintering rather "thin" for cold winds, but his idea in regard to ventilation is very good. If he will furnish the tin horns with whistles, when too much air gets in the hives, the whistles will begin to toot, toot, toot. which will give him warning. I think this would be quite an improvement. We have another friend in the bushes somewhere in Ind., [Mitchell] who is selling a patent hive and right for $10., and all he claims a patent on is a division board that is movable. D. H. Ogden, Wooster, O.

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Can I make it pay to keep a few bees on the shore of lake Huron, about one hundred miles north of Saginaw? I have some and should like to keep them but will have to ship them in the spring, by boat, about one day's voyage. Have all kinds of timber, basswood, hard and soft maple, etc., with wild flowers and white and red clover. They never had any bees in this section; an old hunter said he never saw any in the woods. Will you or some of your readers answer? Yours, Respectfully,

David Beard.

Alcona, Mich., Dec. 13, 1875.

Some of the very best results we have had reported have come from the vicinity you mention; the forests in the northern part of Mich. can scarcely fail of giving prodigious returns to those who are well posted and will act accordingly. See Oct. No. of last year.

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Can you furnish me with Harbison's book on the honey bee. What is the cost of it?

Will Wilson, Bardstown, Ky.

Will Mr. Harbison please tell us where the edition of 1871 is to be found, if at all? We have had several similar inquiries.

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Could you tell us of some simple and efficient machine, to use on the saw mandrill, for cutting the gains to receive the connecting strip in the Harbison sectional honey box. Yours, Truly,

T. P. Andrews, Farina, Ills.

Turn up a block of wood accurately and then saw it in two diagonally; screw up the saw between these and you can saw a gain of any width you choose, depending on the way the ring of wood was sawed, or the amount of wabbling motion thus given the saw.

## Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," and have a *friendly* chat and feel "at home."]

THERE is no help for it, dear friends, and the trouble is something like that of the clothier. You see a couple of good people were in want of a coat for their boy, and they by chance entered one of those stores to be found in cities where one can never get away peaceably without making a purchase. Well, the coats were not of the proper size for their son, so the parents judged, and they wished to try elsewhere. Our friend vehemently declared:

"The coat ish all right, but the poy ish too schmall."

Now that is just our trouble at present, humanity is all right, at least we are trying to think they are, and it must be our own self that is "too small." Yes, we haven't a doubt of it, come to think of it deliberately; and the only thing we can do is to grow so that we can wear "big coats" like other people.

In commencing to write GLEANINGS, we discovered that our "Home Matters" *would* get mixed in with it, and then when we got to work at "Our Homes," it seemed just as difficult to keep "Bees and Honey" out of mind entirely. Besides, whether our work amounts to much or not, we have been so fortunate (or unfortunate,) as to have enlisted the interest of very many of our fellows. You know how well we like to do things promptly, and that we particularly like to have everything well done; and perhaps some of you know how difficult it is to do this always, and not have the expenses exceed the income. Well, we seem to have an unusual number of new friends this centennial year, and as usual, and in fact just as they should do, they have commenced by asking a perfect torrent of questions. This is all right, for it shows a disposition to improve, and to try and answer all these numerous inquiries we have printed most voluminous price lists. But the "centennial generation" do not take kindly to price lists, it is too much trouble to read them over, and postals are so handy they prefer to just ask and have a reply on a card that contains nothing else. Who is to blame, the coat or the boy? If the question happens to come up when we have a mail containing an unusual amount of money, I have noticed that the temptation is much stronger to say:

"They have got the price list right before them, if they can't take the trouble to read it over it is their own loss. How many price lists do they think one should print and mail them all at one's own expense?" A quieter voice sometimes says,—oftener when money is rather scarce—

"You have no right to think rudely of your customers, much less to treat them so, and if they prefer to have personal answers to their inquiries you should give them. You sent them the price lists hoping you would get orders thereby."

"But it is impossible for me to do so much writing."

"Employ some one to do it."

"They would want more pay than I could give, and besides they would make more blun—"

"Take care, you are getting back on the old track again and abusing the boy because he is too small, when the real trouble is with the coat you have to sell. If your customer seems unreasonable, and your employes inefficient, it is more than probable that you do not use system about your business and that you do not make things plain and easy to be understood, as every business man should do. Every one may not be as fond of poring over catalogues as you are, and it is not unlikely that you would ask just as many thoughtless questions in regard to some business that was new to you as others do. Bear in mind that as it is 'a bad workman that quarrels with his tools', it is invariably a bad business man that even so much as allows himself to feel the least bit unpleasantly toward a single one of his patrons, or toward any one that pays him the compliment of even so much as making any kind of an inquiry in regard to his especial business."

Now, dear patrons, since we have got into the proper frame of mind, we have made a resolution that every inquiry of whatever nature shall have the best reply that we can give it under the circumstances; and that this reply shall be given at once, whether you are a subscriber or not, if you will only excuse brevity and postals. When we fail to do this it will probably be because prosperity has spoiled us; a very unlikely result, considering the number of "irons in the fire" at present.

### CHAPTER VIII.

### Starting a Home.

ALMOST all through the animal kingdom we see traces of the powerful instinct that prompts the choosing of some regular place of abode, and since I was old enough to watch the chickens in their sometimes perverse determination to roost on the same spot occupied on the previous night, I have felt a powerful sympathy with all animated creation in their craving for some little spot on earth that they might feel was all their own home; some place to retire to when persecuted and to feel secure from intrusion, especially when the shades of night draw near. But a few weeks ago in moving a hive of bees—just as I said it would be, "I told you so"—about a pint of the poor fellows came back to their old home, and the dismal note they gave forth, and the dejected air of utter misery that seemed to possess them as they wandered sorrowfully about the familiar points of their old abode, fairly haunts me still, and strengthens the determination that I feel, to have them henceforth occupy their stand permanently the year 'round, and never to bring sorrow and grief to a single one of the little insects if I can help it by giving them a new location against their will.

Who has not remarked the independence and pride with which old "Dog Tray" gives an intruder to understand that too much familiarity around *his* home is not to be tolerated, and then to contrast the changed demeanor if he perchance should lose his master in some strange town and feel that he had a home no longer. Even puss will travel a long way to sit complacently on her own doorstep, and pigs! why if they are carried miles away in a tight box they will as soon as released go squealing home by the shortest cut possible, setting at defiance all rules of reason and common sense.

Were you ever homesick? Did you ever at the close of the day feel, as you looked about you, that everything was very pleasant and comfortable, possibly more so than some other spot you were thinking of, to those who had never known any other home, but oh! it was not *your* home. Try as hard as you might the feeling would well up and the great sobs would come.

"Oh! what would I give! What *would* I give to be back at the old place once more. I want to see my mother and I want to see the rest, and I could fairly hug the old cat and dog, the cows and the horses, if I could only be there once more. I don't care what happens hereafter nor how hard I have to work I will be good and obedient. Only give me back my home, my dear old home."

Perhaps more than one youth has, under the influence of this feeling, turned back to the old homestead and ceased to be allured by the frivolities of a life away from home; and if all our homes were nearer what they should be, who knows but that the feeling might be a still stronger appeal to their better nature. Perhaps, my friend, it might give *you* a more vivid sense of the happy home you are enjoying if you were taken away a few weeks and then allowed to go back.

Since the days of childhood, it has been with me a fond pastime to watch the growth of homes, shops, stores and all places of business. If a new family came into our town, I was at once anxious that they should get to work and fix up their home; even though they made but very little progress, I at least watched for something to assure me that they were growing just a little. I was anxious to see every body assist in making two blades of grass grow where only one grew before. Particularly do I remember an English family who seemed to have brought not only their quaint brogue from the father-land, but also their habits of economy and thrift to such an extent that they made gardens in every nook and cranny, from every fence corner clear up to the neatly scrubbed door step. Not a weed was ever allowed to intrude on a single inch of the precious ground embraced in the boundaries of their new home. Here a hill of cucumbers, there one of corn, or a tomato or cabbage plant; and so perfectly captivated was my boyish fancy with their novel ways and intense industry, that their home soon became almost my home; and despite the rude jests of some of my old associates who were better dressed and whose accents did not tempt one to laugh outright at their queerness, I soon not only learned to be an enthusiast in their gardening, but also to share in their humble repast of dishes such as they used in the dear old country. Very soon I became "chief gardener" in our own home, and with the aid of my two English boy friends, I soon astonished not only our own household, but the neighbors all around. In fact the naughty boys that laughed at my English friends were finally so astonished at the sight of our melon patch on a south side-hill, that they came one night and—I might almost cry about it again, even if it was 25 years ago. Perhaps the purest and happiest days of boyhood were those spent in beautifying our two homes with those humble friends; and the great secret of it was perhaps that they were so poor that they were really compelled to labor thus for their daily bread. Dear, kind, generous Mrs. Wills! under that queer English garb and despite the broad dialect, there was a true, genuine love for all humanity. Perhaps one great secret of that pleasant home was the scrupulous neatness, that she not only practiced, but taught her boys also; and the success in their gardens and the satisfaction they invariably gave their employers were much owing to this very trait. I should be very glad to state that they grew up to be good and useful men, but alas, a little prosperity, love of their English ale, and well dressed companions were too great temptations, and one of them, I think, was soon keeper of a saloon. Oh, why could they not have been content with their peaceful work amid the strawberries, flowers and—weeds?

Don't you think it is all the better for you and me that we *haven't* very much money? Very likely we would not take half the pleasure we do now with our bees, gardens and homes, if we had lots of money. Is it not taking good care of what we have, rather than having so much, that makes life pleasant to ourselves and those around us?

A year or so ago, I felt some of my old boyish enthusiasm to have my home free from weeds,—you know I mean "out doors" of course—well, to hire a gardener at $2.00 per day seemed the easiest way, and in the course of time, not a weed was to be seen; but it was awfully expensive, and the pleasure was nothing compared to that experienced when it was the work of our *own* hands. Last season we tried another plan; the garden was plowed, and when nice warm weather came, a family council was held and it was decided that all hands, Blue Eyes included, were to meet for lessons in gardening every evening a little before sundown; Papa to not only give instructions, but to make the work pleasant for all. For a while it was uphill work to get them all on hand, and in a cheerful, pleasant mood; and many times did the temptation present itself to think the "poy was too schmall" rather than that he did not make his "coats" right. But victory came at last and all hands were more than willing to repair to our clean and tidy rows of corn, beans, melons, etc., for it was the work of our own hands. Many times did it seem as if urgent duties would demand that the teacher should be excused; but I tell you there is no duty on this wide earth so imperative as the one you owe your own family.

I shall have to commence another chapter in order to have plenty of elbow room to tell you just what I mean by this remark. Remember these two leaves don't cost you anything so it is my privilege to waste just as much paper as I please.

## CHAPTER IX.

"Twelve, is four-thirds of what number?"

IT was probably about the time when I had the "gardening fever," but it wasn't the time for gardens or something or other, and I was at school. "We boys" were a class in mental arithmetic, and we certainly were not a very satisfactory class; our teacher was not proud of us, and we were not proud of ourselves; in fact, as our mother's were not proud of us so far as our mathematical attainments were concerned, we doubt if we were any particular source of joy or pleasure to any one. Not one of us could answer such questions as the one at the head of this chapter, and so we were reprimanded because we had not studied our lessons, and ordered to "take the lesson over again." The next day it was no better and we were kept after school to "study." Didn't do any good for we didn't study, but only looked stubborn. The "master" talked with our parents, and it was proposed to punish us all four to take the stubborness out of us. It is true we all plead we "didn't know how" but as we had been told how, over and over again, it must be that it was only "pure ugliness." Some one ventured to ask if we were not good boys in other respects, and the teacher admitted we were; that our other lessons were very fair, and that we had simply got contrary on mental arithmetic and nothing else. At this crisis, one of the four whispered to me one day in school, that he had learned how to "cipher," and as a proof he produced a broken piece of slate from his pocket, performed an example in addition, and then exhibited to our admiring gaze the fact that he had "got the answer" just as it was in the book. This was certainly "business," and very soon the whole of us were equipped with broken slates and pencils, and the way we "ciphered" at home was a caution. As we were busy and out of mischief, no one took the trouble to inquire what we were at, and finally our ciphering was carried into school, to the neglect of our thumbed and "dogs' eared" mental arithmetics. Finally, the "Master" approaches, and our slates are hastily put out of sight.

"Now look here boys, you cannot deceive me; I have been watching you for some time with your heads down on your desks all four of you, and now this mischief must come to light. Show me what you have been doing! Out with it!"

Four dirty broken slates and pencils with as many old copies of Ray's Arithmetic, Part Third, were sheepishly produced, while we waited in fear and trembling for our sentence.

"Is this all?" We nodded.

"But you can do nothing with these."

"We get the right answers."

"But you don't even know the multiplication table."

"We keep our fingers on the place and look," said we, taking a little more courage.

"But you certainly will never amount to anything in this way, and (musingly) I fear you never will any way. Here, put your slates all on top of the desk and have your own way. You will soon get tired enough of it."

Did we? Not at all; it for the first time gave us a clear idea of what figures were for; and very soon we had no occasion to look at the multiplication table for it had "learned itself." We were doubtless somewhat at fault, but by far the greater part of the trouble was with the "coats" that had been prepared for us and not with the "boys."

Only a day or two ago *our* boy had trouble with his lessons, and his mother asked if papa could not take just a little time to help him. Papa was *awful* busy but he would just look at the example, when lo and behold! it was the very "12, is 4-3 of what number?" in substance. I repeated it over and over in a variety of ways, but all in vain; he could not see any sense or use in such contortions of numbers. I am really afraid I should have accused the boy of being "too schmall," had not the whole scene of years ago come back vividly to mind. I finally took him kindly by the hand —mentally I mean—told him my early troubles in the same place and when I set really about it made him perfectly comprehend the whole matter, as any father can do if he has a mind to. The drills I put him through on it, took nearly a whole hour, but it did me as much good as him, and we both got much better acquainted thereby. The end is not yet. Yesterday a lady in passing me on the street remarked:

"Mr. Root your boy is doing finely in school of late; a boy that tries so hard to do right, and is so willing to learn, is really a treasure." And this was his teacher's verdict, after I had been almost tempted to think him heedless or stubborn. His teacher is an excellent one but as she has a large school it is impossible for her to take each individual pupil and lift them by main strength over their troubles as almost any parent can if he is not "too busy." Besides by helping in this way you are most surely helping yourself. Do you know how much such a boy could aid you in a few years? There is a text in the Bible somewhere, to the effect that the more you give the richer you will become, and I suspect that this applies particularly to giving aid to our fellows who are in trouble, at the expense of a partial neglect of our own duties. Had I not taken the time to help him in his ciphering, you would never have had this chapter.

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Don't you think it would be just as well for me to let some one else talk a part of the time? Well that is just what I have been thinking for some time, and as some quite interesting letters touching the "Home" papers are at hand, we will look them over before we take up chapter X. It seems the friend who writes the following had been in the habit of wearing a veil that was *visible*, thus avoiding the mishap liable with the very thin ones.

I think the Home Department well worth the additional 25 cents. I don't talk nearly as crabbed in my family as I did, and don't find any more fault about my bee-veil —cheap enough for *silk*—but wasn't I spunky after trying three times to put honey in my mouth and the veil wouldn't let me? And then how my better half laughed at me.

G. P., Peru, Ills.

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On page 15 of OUR HOMES you publish *A Word to Mothers*. In regard to white rubber being colored with white oxide of mercury; I would say this is an error, as there is no oxide of mercury that is white—Prof. A. I. Root ought to have thought of that—but I am sorry to say that I can not correct any more of the article. White rubber is the invention of Henry G. Tyer, of Andover, Mass., and is colored with white oxide of zinc. White oxide of zinc is claimed by Dr. Tyer to be non-poisonous, but it is foreign to the body, and moreover has been found by experiment to be poisonous. I think any candid person who reads the reports of all the cases of poisoning by galvanized water pipes which have occurred in Massachusetts alone, since the introduction of said pipes. will conclude that oxide of zinc is truly "a horrible and deadly poison." HENRY A. SPRAGUE.

P. S—I have sometimes purchased black rubber tips for my friends, but they are often rather hard to find.
Charlotte, Maine, Jan. 8th, '76.

You have done us more of a favor than you are really aware of friend S., and to show how necessary it is that each one of us should realize the importance of telling what we know, I will state that on the receipt of the above letter I was on the point of deciding to use galvanized iron in the manufacture of our honey extractors. We learned they used this in England, and thought they should know if it were unwholesome; but if such is the verdict on water pipes, we certainly want none of it about our honey, or any of our culinary affairs.

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*Jan. 18th*—A point comes up right here that induces me to take up the next chapter, and I beg to be allowed to choose the text from Mat. VII: 12.

## CHAPTER X.

"Therefore, all things whatsoever ye would that men should do unto you, do ye even so to them."

AS I am personally interested in the contents of this chapter, it may be out of the question for me to take an unbiassed view of it, I will therefore try not to be tenacious of my own views.

Mr. Coe writes in the Feb. No. of *A. B. J.* in a way that shows that he feels as if he had been wronged, and perhaps he has, but I really cannot see how I can treat all my readers as I would have them treat me, and take any other course than the one I am taking at present, in regard to the house apiary. It is true, had I told Mr. Coe in plain terms just what I thought, when he was a guest at our house, and when I was a guest at his own, there would probably have been no misunderstanding.

Reader, can you do this? Do you really feel it to be a duty? When one pays you a visit you treat them pleasantly, even should you feel they are very much in the wrong; and when Mr. Coe, during his visit to us admitted that he could not advise his house for the use of the extractor, after the strong language he had used in print—see page 112, *A. B. J.*, '75—I really felt that the man had wilfully misrepresented. His explanation, that it was a mistake, changed my opinion then, but since he has never said as much in print where the statement now stands, I can but revert to my former opinion. I did admire, and do now, his house apiary; but declined then, and should now, one like it for real use. When he told me in answer to an inquiry, that he should want $2.00 per hive, or $100.00 for a right to use a house of 50 hives, I did tell him plainly, even when I was his guest, that I might think, even should he build me a house gratis, that it was my duty to advise my readers to build houses without purchasing a patent. His reply was that he would take care of all of that part of it himself. Mr. Coe and his sister were very friendly indeed, and he was very liberal in offering me the right, gratis, and to superintend building the house for reasonable wages; but dear readers, how about *you* who have been so ready to invest in everything I have advised? You have also been kind and indulgent and are just as near to me, although I have never seen your faces, as any friend on earth. Since I have mentioned the house in GLEANINGS, more than a dozen house apiaries have been brought to light. Many have been in use for years, and I really cannot think that either Mr. Coe's or Faulkner's—they seem the same thing to me essentially—possesses any needed feature, that is patentable. The idea of the house apiary I first got from friend Moore of Binghampton, N. Y. Prof. Cook *did* tell me that he feared I had not given Mr. Coe the credit he deserved, but in justice to my readers who certainly should have facts, without any regard to the friendly way in which Mr. Coe had treated *me*, I can but think that my report of that visit did him *more than* justice, and hence my present inconsistency.

It *is* a hard matter to do to *all* your fellow beings just as you would be done by. And when one sets about defending himself he is pretty sure to do as I have done in the above lines—made it appear that Mr. Coe is all wrong, and that I am all right. It is very probable that in my dislike of patents, I am looking with prejudiced eyes; but I do dislike to see hard-earned money go, without bringing a fair equivalent. It might be worth while to look over the claims that have been allowed on these two house apiaries to see what is patented.

I confess that all this seems rather out of place in "Our Homes," but it was chosen to illustrate the difficulties of applying the text unless it is taken in the broad sense, as applying to *all* mankind.

In doing to A, as we would be done by, we must also include his neighbor C, and likewise D, or we shall have but a selfish mess of it. It might be very pleasant for me if the editor of some paper would recommend my wares instead of my neighbor's whenever he was inquired of, but if it were the neighbor's instead of mine, I should feel very indignant, and tell him it was his duty to let merit alone decide the matter; that he had no business having favorites or showing partiality. We are all willing to be shown favors, but very few of us are content to see privileges given others to our own exclusion.

It is comparatively a simple matter to do as we would be done by in money matters, compared with the feelings and passions that frequently sway humanity. One may have worked zealously for GLEANINGS, and may have sent me large numbers of subscribers, or he may have entertained me most courteously; but for this reason shall I publish an article because it came from him even though it be a very indifferent one? Suppose the same person is wronging our bee-keepers in some way, shall I hold up others and let him go free because forsooth he has been *my* friend? I do not want you to be *my* friend to that extent, but I would have you the friend of *all* humanity and in that way I shall feel that you are more sincerely a friend of mine.

A new commandment give I unto you, That ye love one another.—John, xiii, 17.

# Gleanings in Bee Culture,

**Published Monthly,**

A. I. ROOT.
EDITOR AND PROPRIETOR.
MEDINA, OHIO.

**Terms: $1.00 Per Annum.**
[*Including Postage.*]
*For Club Rates see Last Page.*

## MEDINA, FEB. 1, 1876.

FOLLOW thou me.—John, 21: 23.

◆

JAN. 29TH We have to-day, 1,241 subscribers, and are in a very thankful frame of mind. How do you like our new Headings to Different Departments?

◆

ALTHOUGH very good dies can be made with type, we get better and cheaper ones of solid metal, by using proper punches, properly guided. When the machine is finished we will give you a full description.

◆

WE had intended to make mention of our advertisers individually, but really there are so many, and they are all so deserving of patronage, we fear we shall have to wait until each one's specialty comes up.

◆

P. S—One of my neighbors wants to know whether you can not make a machine to turn out egg-shells. It would save the hens as much trouble perhaps, as the comb machine saves the bees. He says he would take a few dozens ready-made.

JACOB J. KISER, Adelphi, Iowa.

◆

TO make the closed end Q. frame an exact fit for our Universal Hive we have made it ¼ inch shorter, and for the same reason have changed dimensions of our section frames to the following: Tops and bottoms, 5⅜ by ¼ by 1¼; sides, 5 by 1 21-32 by 3-16. Nail sides into the top pieces.

◆

JAN. 18TH—still warm. The bees had a fine fly yesterday, and we tried to get them to work on meal, but they wouldn't. Brood in all stages. Some of our friends write that young bees have hatched in such numbers that the hives are more populous than in the fall. "Did you ever?"

◆

I USE pure beeswax. It is sun bleached; requiring thirty days to bleach a table of wax. It commands a ready sale at 55c. per lb. I have sent out some foundations less bleached than others. The only apology I can offer for this is that I was rushed and could not wait for the wax to bleach fully, or rather the parties who wanted to test the foundations could not wait.

N. Y., Sept. 2, '75. JOHN LONG.

◆

DEAR friends, we were intending to make a nice little set speech when this Feb. No. was all done, but really there is no room for it. We have worked hard to give you a nice large bee-journal, larger than we promised when you subscribed—without making any mention of OUR HOMES, for we have decided for special reasons to make no charge for that department—and now we *do* want 25 cents more from all of you that have paid only 75; that is, if you feel satisfied the journal as we now give it is worth so much. If you conclude to do it, please send the money now before you forget it; we need it badly, and you don't know what awful things may happen to us if you *don't* send it. You will pay us just that *small* compliment, will you not?

◆

AFTER we were out of all patience—that is as far as is consistent with our recent teachings—in waiting for that candy book, we bethought ourselves—for a wonder—of looking over the O. Judd & Co.'s book list, and sure enough, there we found "How to Make Candy," only 50 cents. We sent the money and in three days had a book—a real nice one too, with nice big sticks of red candy on the cover—that told us all we wanted to know. It is genuine fun to make candy, by the very plain directions therein given. We felt so well pleased with it that we have gone and offered their entire list of books for sale, and we will send you the candy book or any other on almost any subject on which you may want the fullest instructions on receipt of the price. When you very much want to know all about anything, don't you know that one of these hand-books is just like talking to some one who has the subject all at their tongues' end? Good, truthful books well read, are better than money in the bank.

◆

AND now our candy business is all——. It was lots of fun and we have used up nearly two barrels of sugar, but we one day gave the bees some lumps of loaf sugar, and as surely as you live, they ate it all up just as they do the candy. We tried it again to make sure there was no waste, and put the bees up close to one of the glass division boards in the house apiary. It's of no use to feel badly about it, they really do use every particle of it, and there's not a bit wasted. The reason we did not find this out before, was that we tried lumps of coffee sugar, and they crumbled it down on the bottom of the hive, but to our surprise the loaf sugar works quite differently. Again, loaf sugar is considerably purer than the coffee sugar, as you can tell by tasting. Besides it is always used in sickness and for infants. In fact, we are told that in cases of extreme feebleness, the loaf can be used where coffee or any other kind of sugar would prove dangerous. You can get it of your grocers for 13 cents at retail, in the form of lump sugar, and this is 2c. cheaper than the candy, besides being purer; it can be purchased in N. Y. for about 11 cents.

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of his responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

**MISS S. E. FULLER**, *DESIGNING AND ENGRAVING ON WOOD*, 25 Bond Street, Room 3. N. Y. Awarded Medal of Merit at Vienna Exposition, 1873. Orders by mail promptly executed, at reasonable rates, from sketches or photographs. Electrotypes supplied.

THE
**British Bee Journal**

IS A LARGE, Beautifully Printed, and Profusely Illustrated MONTHLY; Clear Type and Fine Heavy Paper.

It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual Subscription, Half-a-Guinea.

We will send it with GLEANINGS and pay all postage for $3.00.

MUTH'S ADVERTISEMENT.

## HONEY JARS.

| | |
|---|---|
| One pound (square) Jars, per gross | $6.50 |
| Two " " " " | 8.50 |
| One " " " Flint glass per gross | 9.00 |
| Two " " " " " " " | 11.00 |
| Corks for 1 and 2 lb. jars | .75 |
| Tin Foil Caps, per gross | 1.20 |
| Labels, " " | .75 |
| A thousand labels address printed to order | 5.00 |
| One qt. fruit jars, Mason's patent, per gross | 17.00 |
| Labels for same, " " | .65 |
| A thousand labels address printed to order | 4.25 |
| Uncapping Knives, as good as any, each | .50 |
| " " per doz | 4.50 |
| Alsike Clover Seed, per bushel | 15.00 |
| " " " " peck | 4.00 |
| " " " " pound | .35 |

**LANGSTROTH BEE HIVES,**

Straw Mats, Bee Veils etc., at reasonable rates.
For further particulars, Address,
1tf CHAS. F. MUTH, Cincinnati, Ohio.

**THE BEE-KEEPERS' MAGAZINE,** an illustrated monthly journal of 32 octavo pages, devoted exclusively to Bee-Culture: edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper and experienced Bee-Keepers in AMERICA and EUROPE. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine 1 year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with *prize* essay of Mrs. Tupper, Queen Rearing by M. Quinby, instruction for beginners, etc., sent *free* with the MAGAZINE, on trial, 4 months for 50 cents. Agents wanted—Cash commission and permanent employment. Address,
KING & SLOCUM, 61 Hudson St., N. Y.

## ITALIAN BEES.

ITALIAN QUEENS bred from imported mothers—a month earlier than in the North. Purity and safe arrival guaranteed. Also full colonies of Italians in Langstroth hives for sale at $15.00 per colony.
Address DR. J. P. H. BROWN, Augusta, Ga.

AMERICAN BEE JOURNAL.

Every Bee-Keeper should subscribe for this Monthly. It is the **oldest and best** scientific and practical Journal of Apiculture in the World. The most successful and experienced Apiarians in this country and Europe contribute to its pages. Terms, $2.00 a year in advance. **Send a Stamp for a Sample Copy.** Address, THOMAS G. NEWMAN,
196 and 198 South Clark Street, Chicago, Ills.

## COLONIES.

We are wintering 80 Imported Queens in our apiary and we will offer about half of them, to be delivered in spring,

**In full colonies as usual.**

The reader must bear in mind that we are the only

**Successful Importers of bees in America.**

We will sell at the following **reduced** prices:

| | |
|---|---|
| Colony with Imported Queen | $18.00 |
| " " Home bred tested Queen | 14.00 |

Queens all raised in 1875.

The hives are all new, well made and well painted, and combs straight.
Safe arrival guaranteed.
CH. DADANT & SON,
Hamilton, Hancock Co., Ills.

## BOX HIVES.

**Containing Pure Italian Bees.**

BOX HIVES of 2,000 cubic inches capacity containing straight combs (built on guides) and Tested Queens not over 1 year old, delivered at the nearest Express office in Nov. at $8.00; or the following April at $10.00.
Four Dollars must accompany each order. California, Mo., is my nearest Money Order office.
E. DIEFENDORF,
2t$1 Clarksburg, Maniteau Co. Mo.

## "VINEYARD APIARY."

**TESTED QUEENS—**
**—A SPECIALTY.**

One Queen....$5.00
Two Queens... 9.00
Three " ...12.00
Reared in full colonies.

Or sent in full colonies at $15.00 each. Address
JOSEPH M. BROOKS, Box 130, Columbus, Ind. 9-8

## Bees, Hives, Smokers, Books, Etc.

Those desiring supplies, as heretofore furnished by the late M. QUINBY, may address
1tp L. C. ROOT, Mohawk, N. Y.

## Columbia Apiary.

**Queens from Imported Mothers for 1876.**

We will send Queens the coming season as follows:

| | |
|---|---|
| One tested qeeen from Imported Mother | $4,00 |
| Two " " " " " | 7,00 |
| Three " " " " " | 10,00 |
| Six " " " " " | 18,00 |
| Untested queens " " " each | 1,00 |

Safe arrival of *all* queens *guaranteed*.
1tfinq STAPLES & ANDREWS, Columbia, Tenn.

## THE BEE WORLD.

OUR Bee Journal of the Southern States. Issued monthly at $2.00 per year. Sample copies free.
Address A. F. MOON & Co. Rome, Georgia.

## TERMS: STRICTLY CASH IN ADVANCE.

One Copy One Year $1.00, or with Lithograph of Apiary, size 12x16, Mailed Free, Postpaid, $1.25 or Lithograph will be sent as a Premium for Two Subscribers at $1.00 each.

Any person obtaining Three Subscribers at $1.00 each, may retain 50 Cents for their trouble.
" " Five " " " " 1.25 " "
" " Ten " " " " 4.00 " "

Any number above Ten will be sent at the rate of Sixty Cents each.
OR, GLEANINGS, $1,00; Three copies, $2,50; five, $3,75; ten, $6.00.

Names may be sent at any time during the year, and whenever a club is reached, we will credit back the amount previously sent us in excess of the Club Rates. In this way any of the

**Articles Mentioned on our PRICE LIST may be Secured as PREMIUMS.**

Please mention when names are intended for Clubs. An acknowledgment will be sent in all cases on receipt of money—for any purpose whatever—by return mail. Volumes I, & II, at 75c. each, may be counted on the same terms, as we have a

**Large Supply of BACK NUMBERS Provided for new beginners!**

As we cannot take the space in future numbers to go over the same ground again, and Volume One contains the entire Fundamental Principles and

**Ground Work for Starting an Apiary.**

# GLEANINGS IN BEE CULTURE

Or how to Realize the Most Money with the Smallest Expenditure of Capital and Labor in the Care of Bees, Rationally Considered.

PUBLISHED MONTHLY, AT MEDINA, OHIO,

BY A. I. ROOT.

**Vol. IV** **March, 1876.** **No. 3**

*In the Preparation of this Journal the following are the Principal Periodicals Consulted:*

**American Bee Journal.** *T. G. Newman.*

**Bee-Keeper's Magazine.** *King.*

**Bee World.** *A. F. Moon & Co.*

**British Bee-Journal.** *C. N. Abbott.*

*[Also Bound Volumes of the former since 1860, and Files of all other Bee Journals that have been Published in America.]*

**American Agriculturist,**

**Prairie Farmer,**

**Rural New Yorker,**

**Country Gentleman,**

**Southern Farmer,**

**Scientific American.**

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## FOOT-POWER BUZZ-SAWS.

Both of the machines mentioned last month, are at hand and tested. We give a decided preference to the small $35.00 one, especially when we consider the difference in price. This machine is one of the brightest illustrations of genuine Yankee ingenuity it has ever been our fortune to meet; and the simplicity, and fewness of its parts, are really surprising. With the new and novel foot power, the only wheel there is about the machine except the saw can be *instantly* set humming like a top, and one of the prettiest little saws can be attached to it in little more than a second of time, yet the whole is so extremely simple that even a child can do nice true work at once. At our first attempt, we sawed one foot of 7-8 inch pine in six seconds. The gauges are models of simplicity and accuracy, and only cost $1,50 each. With this machine our friend Cyula could do as fine and accurate work at frame making as an expert mechanic, (even of she had to saw them out of barrel heads) and if she were to let brother Richard just make one hive on it—it will make a whole hive easily—it seems to us he *must* take a fancy to beekeeping.

We are so well pleased with it, that we shall keep them on hand for sale. We can furnish a beautiful saw mandrel and bearings, for $8.00; and with one extra one, the saws can be changed without turning a single screw, and about as readily ane would lay a tool in his tool chest and take out another. The facilities this machine offers for rapid work, and the way in which labor is saved in its construction, are to us, simply marvelous. We thought we did a very bright thing when we devised our new extractor gearing, but we will yield the palm to the Barnes' saws. We should add that for $5.00 more—$40.00—they include a beautiful scroll saw. They can be used independently, or both at once, and one can be detached or attached by a simple "twist of the thumb." Should you choose to send your order to us, we will include the book, "Art of Saw Filing." We can furnish any of the parts mentioned, and can send you the saws, 6 inch, either cross or rip, by mail, post paid, at $1.50 each. We can send an illustrated price list on application.

## THE COMB-FOUNDATION MACHINE.

*Feb. 26th*—We are happy to state that the metal rollers are a complete success, and we can roll out one continuous sheet a foot wide and a mile long if we wish. The machine has cost much money and still more will be required to get the wax in the proper shape for it rapidly. The impressions in the rolls were made by striking them one at a time with different shaped punches, yet they are made with such astonishing accuracy that we can make cells with the bottoms nearly as thin as a soap-bubble. The thinnest we had of Mr. Long was 5⅓ sq. feet to the lb., but at our first trial—to-day—we made 8 sq. feet of a lb. of wax, and these with sharp clear walls. The artist who did the work, Mr. Washburne of whom we have before spoken, planned it although we employed him by the hour and took all the risk of its being a failure. At present we can offer no better rates than 75c. per lb., or 15c. per sq. foot, made of nice yellow wax; we have not worked out the bleaching process yet, but hope to before next month; we are much inclined to think the yellow when made so very thin, will never be noticed from the bleached. If you think we are making too much money at above prices, you can have the machine for $150.00, and do it yourself. We will try and give a "real picture" of it next month. If you wish wax worked up, the price will be 50c per lb.

## SECTION HONEY BOXES.

*Feb. 28th.*—It is 5 o'clock this Monday morning and we, my wife and I, have just "got up," she to do her washing as usual, and I,—not as usual—to try and tell you on this cover, by picking out the types with my inexperienced fingers, about my new invention in section boxes for holding the comb foundations. From a ⅞ board cut off pieces 5 inches long and groove both ends of these pieces by pushing over 4 saws so placed on an arbor that they produce 4 grooves and 4 tongues of equal thickness, and 3-16 deep. Now if we rip off 3-16 strips from these pieces, of course each slip will contain these tongues and grooves, and 4 of them will make a frame without nails, but is too narrow and has no place in which to fasten the foundations. Use two of the pieces for both top and bottom, side by side and if you place them right you will have left between them just the space for an inch strip, or a whole sheet of the foundations as you choose. I have just been and timed myself by a watch, and after the grooving is done I can with the foot-power saw make a section box in ½ minute. Put the wax sheet between the two top pieces and press them up, then put in the sides, and the wax will never get out, even in shipping. In placing the sections in the hive, turn each alternate one so the usual top bars will be on one side, this will allow one section to be pressed into the next, as it were, sufficiently to allow them to be handled, but yet allow them to to be broken apart readily when they are to be retailed. They are so light that we can send a dozen of them by mail post paid for 25 cents, or a sample with our new comb foundations for 5 cents.

* * *

For Book List see Feb. No.—Crowded out this month.

Our 30c hive covers are painted with two coats of paint, and have full directions on their under side, for the care of the bees, besides a queen register card, all complete.

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of his responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

THE BOSS POTATO.

**We have it in Compton's Surprise.**

After having tried nearly all the leading new varieties, we give it the preference as a Standard Potatoe, on account of its productiveness; its good size for table use; its earliness—ripening here the last of August; its freedom from rot; its *superior* keeping and table qualities; preserving well its whiteness; its dry, fine grained mealiness, and its excellent flavor until July and August.

| | |
|---|---|
| Price per bushel, Compton's Surprise | $ .75 |
| " " Brownell's Beauty | .75 |
| Three bushels or more to one address, per bushel | .50 |
| Snowflake per peck 75c.; per bushel | 2.00 |
| They will be shipped in new Stark Mills grain sacks, price of sacks, each | .25 |

JAS. H. TOWNLEY.
Tompkins, Jackson Co., Mich. 3-4

WANTED.

A GOOD brisk hand to take care of bees and garden: will give an interest or hire by the month.
3 ELI KETNER, Oskaloosa, Iowa.

**WM. W. CARY,** Colerain, Franklin Co. Mass. Sixteen years experience in propagating Queens, direct from imported mothers from the best district in Italy. Persons purchasing queens or swarms from me will get what they bargain for. Send for circular. 3tfq

**BEE FEEDERS.** Sample by mail 75 cents. Circular sent free! C. C. VAN DEUSEN, Sprout Brook, Mont. Co., N.Y.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

### $1.00 Queens.

*Names inserted in this department the first time without charge.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions; No guarantee is to be assumed of purity, safe delivery or any thing of the kind, only that the Queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

| | |
|---|---|
| G. W. Dean, River Styx, Medina Co., Ohio. | |
| *J. Oatman & Co., Dundee, Ills. | 3t2 |
| *Dr. . P. H. Brown, Augusta, Georgia. | 9tf |
| *E. W. Hale, Wirt C. H., West Va. | 6-6 |
| *J.M.C. Taylor, Lewiston, Fred. Co., Md. | 1t6 |

### Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

| | |
|---|---|
| H. Palmer, Hart, Oceana Co., Mich. | 11-4 |

## PRICE LIST OF THE DIFFERENT PARTS COMPOSING THE UNIVERSAL HIVE.

We will send any of these pieces by mail, if the postage is included with the remittance. We will pack them as well as we can, but should they be broken in the mails, we can not be responsible. If sent by express, we guarantee safe delivery. Express charges are so variable, that it seems difficult to establish a uniform, and satisfactory rate; yet if you choose to leave the matter to us, we can prepay charges at about the rates given in the following table. If you can make a better arrangement with your agent, do so by all means; if not, send the money to us and we will prepay express when goods are shipped. If your express office is not on a main line, from 25 to 50 cts. more must be added. This is rather indefinite, we are aware, but it is the best we can do. If goods are not wanted at once, they can be sent by freight at one-half, or still less rates; but it is very unwise to wait until they are wanted, and then order by freight. As an illustration, we have taken a cover, a whole hive, and an extractor; they weigh respectively, about 2, 10, and 25 lbs.

RATE AT WHICH WE CAN PREPAY EXPRESS CHARGES.

| | *Cover.* | *Hive.* | *Extractor* |
|---|---|---|---|
| New York | $ .50 | $ .90 | $1.40 |
| Chicago | .25 | .60 | 1.00 |
| San Francisco | 3.00 | 4.00 | 6.25 |
| New Orleans | 1.75 | 2.75 | 3.25 |
| Galveston | 2.00 | 3.00 | 3.50 |

| | |
|---|---|
| Covers for hives, size 16x20, (by mail 30c. extra) | $ .30 |

These are made of good pine 5/16 in. thick, framed with metal and painted. They are so light they can be easily handled with one hand, and yet the heavy rim prevents them being blown off by the wind.

| | |
|---|---|
| Hoops for forming the body of the hive (by mail 08c. extra) | 06 |
| Division boards for any frame, self-adjusting, metal ends (by mail 12c. extra) | 10 |
| End boards, used in all suspended frame hives to hold the metal rabbets (by mail 10c. extra) | 05 |
| Metal rabbets per pair (by mail 5c. extra) | 05 |
| Hoop with metal bars to hold section boxes (by mail 12c. extra) | 30 |

These bars hold the boxes just ¼ inch above the frames, and are strong enough to hold over 100 lbs without injury.

| | |
|---|---|
| Frames with metal corners, any dimension (by mail 4c. extra) | 06 |
| Closed end frames, nailed corners (by mail 10c. extra) | 05 |
| Section boxes each (by mail 4c. extra) | 01 |
| Section boxes with guides of bleached wax comb-foundation (by mail 4c. extra) | 02 |
| Case with glass sides, just right to hold one section, box ornamented with fancy colored paper, finished complete (by mail 12c. extra) | 15 |
| The same without the glass (by mail 6c. extra) | 06 |
| Quilts 15½x19½ (by mail 6c. extra) | 25 |

Now, as we know what everything costs, we can very soon suit ourselves both in price and simplicity; in fact, we can do as they do at the restaurants kept on the European plan; call for what you want, and pay for what you call for, and nothing more.

### CLOSED END QUINBY HIVE.

As the ends of the closed-end Quinby frame form the ends of the hive, this hive is the cheapest and simplest; though not the easiest to handle.

If you are building up an apiary, you can get up a hive that answers all purposes until the new colony is ready for surplus, by taking 9 hoops, 6 frames and a cover; total expense $1.14, and the space that the other 4 frames would occupy, will hold just 24 section boxes—do you see how we have made everything go everywhere?—and then you have a hive with surplus boxes and all, for $1.38. It is true it is not a very large hive, but it has a larger brood apartment than is recommended by Doolittle and Moore, and other great comb honey men.

The 24 boxes will hold about 20 lbs.; but if you want more, you can raise the cover, and put on a case of 27 more, or still higher, and put on two cases; each case adding 75c ($1.00 with foundations) to the cost of the hive.

If you wish to use the extractor, you can have 10 frames instead of 6, and this will make your hive cost only $1.34. If you want still more room, set another just like it, over it, and you have a 20 frame hive for only $2.68. You can put on as many stories as you wish, and the hoops will always make a perfect weather-proof joint, and the ¼ inch above and below the frames makes only ½ inch when they are put one above the other.

In the above estimates we have said nothing of a division board or quilt, and some never use them at all; but unless something be used over the frames, the bees are sure to attach their combs to the cover. We prefer a quilt for this, but a piece of thick, strong cloth will do, though not as efficient nor as tidy.

If this frame is so cheap, and answers so well, it may be asked why we do not stop here. Just because the frames must be pried apart at their ends every time a hive is opened, because the frames are of a necessity heavy to handle, and because it is almost impossible to avoid killing bees unless we work very slowly indeed, and keep a smoker constantly by us to drive the bees out of the way, that the frames may be brought up together without crushing them. An expert can get along very well it is true, but even *they* have recently admitted that many of their statements in regard to the matter have been too strong.

It is one of the great points of disagreement; and perhaps you who are in doubt, should give both hives a trial. It were well to remark that this frame offers great advantages in the house apiary; for the frame may compose almost the whole hive. Bore a hole in the wall just above the floor, or just above a shelf for the upper tier of hives; stand your frames against the wall so as to cover this entrance, and your hive is done; to be sure you need a division board to close the last frame, and a cloth or quilt over the frame, when no boxes are on.

Hives with suspended frames are built up in the same way, and at about the same expense, except that the metal corner frames cost one cent more each, and each hive must have two end-boards and a pair of rabbets, which adds just 25 cents for a 10 frame Langstroth hive. If we use the Standard frame, we must add to the size of the hive by putting on two hoops—a hoop raises the walls of the hive just 1¼ inches—and then we can hang the frames the other way, and put in 13.

If we wish to use the American frame, we simply make the end boards ⅞ of an inch thick and this brings it just right, for the Standard frame has a width 1¼ inches greater.

When the Gallup frames are used, we move one of the end boards out until there is space behind it for a course of section boxes, and we then have 13 frames as with the American and Standard.

With any of these frames we can put the brood in the centre, and use section boxes on one or both sides, and by this means we can, at any time, remove any frame without any disturbance to the boxes. This is a matter however of no great importance, for it is seldom that there is any occasion for overhauling a hive when the bees are busily at work in the boxes.

Now among all the combinations possible with these various frames and section boxes, does any one wish to know just what we would use? We will tell you with pleasure. We have used all these frames, and think it makes very little difference to the bees which one *they* have, other things being equal. But it sometimes makes quite a difference to the one who must care for them.

In making our estimate of what is needed, we shall keep vividly in mind what is said in regard to Novice's barn, on another page; and shall try to avoid gathering up a lot of traps that may after a time, not be needed.

ALL THAT IS WANTED FOR ONE COLONY OF BEES.

| | |
|---|---|
| Sawdust ½ bushel | 05 |
| Two covers at 30 cents each | 60 |
| Nine hoops at 6 cents each | 54 |
| Two end boards at 5 cents each | 10 |
| One pair of rabbets and screws | 06 |
| One division board | 10 |
| Ten Langstroth frames with metal corners | 60 |
| Quilt | 25 |
| | $2.30 |

We might have saved 25 cents in the above, by using a broad board for the hive to set on, in place of the extra cover; but the cover makes a much lighter bottom if the hive is ever to be moved, and is so made that it stays nicely in place. In fact the covers fit into, or over the hoops so nicely, that this lower one has nearly all the advantages of a permanent bottom board, yet the hive can be raised at any time to brush out dead bees, etc., or for using any hive for an upper story when required.

To use this hive, pour the sawdust in a heap on the ground, then lay one of the covers on it, spreading the sawdust out so that the cover will rest firm and level. If you cannot make it level by your eye, keep a spirit level to straighten them up as often as they get to leaning. Also, we would advise you to commence by having each one set squarely east and west, the entrance to the south. The bottom board is to be the same side up as when it is used as a cover. When it is all right, place eight hoops on it and stand the end boards in each end, resting on the bottom board. Put one of the small screws in each of the

*(Continued on page 63.)*

# Notes & Queries.

THE following letter was received and read clear through, then dropped in the waste paper basket. After a while we felt guilty, fished it out, read it partly through again, and dropped it in the basket once more after telling the writer there was no other way than for him to *study* his subject. After the letter had lain there two days, conscience being at work meanwhile, it was brought out again and carefully contemplated; the result being that we decided to open this department. And this letter shall be the corner stone. When our friend comes "on the stage," you will bear in mind that he has been telling that he has one swarm of bees, and several new patent hives that have never been used, which he has explained by diagrams, at length:

A. I. ROOT, Esq.—*Dear Sir:*—I am virtually a beginner. I have one stock black bees. * * * * Now do not tire. I want to utilize these hives if I can by altering or otherwise. I want also to use *only one* hive. I intend to enlarge to, say 30, 40 or 50 hives—may purchase some more black bees in the spring—and I want to Italianize them all. Now let me here say that I am taking bee magazines and have bee journals, but I like your GLEANINGS very much, particularly the Feb. No. Now I am going to ask a great many questions, and please keep temper, and do not weary, and take your time. I hope my questions will neither sting you nor upset. Well, now for it. Send me your circular describing hives.

If you were now starting, what hive would you use as the most simple and convenient? A. Langstroth frame in the Universal hive. 2. What is the Modest hive? and is the hive the Des Moines, Iowa, Bee Company offer for $1.00, the same as Mrs. Tupper recommends, or is using? A. Have never seen the Modest hive, but we know the owner to be reliable. 3. Can it be that E. C. L. Larch, of Ashland, Boone Co., Mo., sells full colonies of *pure Italian* bees for $4.00—10 Langstroth frames, or is it a catch? A. The ad. mentioned was an error of our own—should read $14. Our advertisers are all reliable; we keep a sharp look out for "catches." 4. Will it do to feed rye meal and candy to bees now? A. Feed meal now—candy any time. 5. Where do you put the meal? A. In the sun and out of the wind. 6. Do you put the the candy on top of frames or down between them? A. On the frames right over the cluster. 7. Why do they address you as Novice? A. We first wrote under that signature, and our friends think as we do, that it fits us very well yet. 8. I see some honey in small frames in the market—looks like they had been put into surplus honey boxes. Is it so? A. Perhaps. 9. What is the best hive for honey in surplus boxes; that is, in the comb, *not extracted?* A. Langstroth Universal. 10. Is it best to set the boxes on the frames, or use a honey board? A. Rest them on metal bars bringing them within ¼ inch of the frames. 11 Should boxes have bottoms to them? A. Bottoms made of 1¼ inch bars, with ¼ inch slot between them. 12. Are you in favor of a double hive, one on top of the other, both with frames. A. Yes. 13. How will you get at the frames in lower hive? A. Lift off the upper one. 14. Would you have a space above for surplus honey boxes, with a cap to cover them? A. We would have the cases of boxes described in this number, and would use the cover to the hive, over them. 15. Are any of the five $1.00 hives you offer for sale anything like the Modest, Simplicity or Des Moines Bee Co.'s hive, all at $1.00 I believe. A. The $1.00 hives are the Simplicities, and those Mrs. Tupper offered were copies of them. Many of the copies were not halved in at the corners; we dont know how it is with the Modest. 16. What is meant by side honey boxes, and how fixed. A. Boxes placed at the sides of the frames instead of on top. 17. I cannot understand the recommendation to use quilts and chaff for a Quinby hive to keep it warm and then only take the frames indoors. A. If the bees are left out, they may be packed with chaff, if put in the cellar, carry in only the bees and combs. 18. I do not understand closed-end frames. A. Ends so wide that they close all the space, viz: nearly 1½ inches. 19. How do you keep them steady, and off from the bottom board? A. They stand on the ends that project ¼ inch; see diagrams of frames. 20. Do these $1.00 hives and others open on one side so you can easily examine the frames? or must you lift all of them off from above, and then have to remove cap, honey-board, surplus boxes and all? A. We believe it is the general decision that the latter is easiest, all things considered. 21. If so they are no handier than the hive I have my bees in. You say drumming bees out is laborious. What other plan have you? I have no No. of GLEANINGS to refer to except those you have sent me. A. The May No. before referred to, contains all we know on the subject. We will mail it to you for 10 cents, but we could hardly afford to write it all over again for as many dollars. Please do not think us unkind or disobliging. 22. You say the advantage of the Standard over the Langstroth is, that it will hold 20 frames. Is it not a durable hive? and will not the Langstroth hold as many double also? A. Standard hive is double width, Langstroth double in height. The frames of the latter are too long to be spread out easily like the former. 23. I have never seen a Langstroth, Quinby, Standard or any other hive except the kind I have, consequently I am not posted. The gist of all my inquiries is to get the best, the most convenient to handle, and also best for surplus comb honey, and it appears to me that such a hive should open otherwise than from the top, but I might think differently were I to see them. A. Hives have been used with frames made to take out at the side, but after you have removed the first three or four, you will find it quite inconvenient. The metal cornered frames and glass division boards especially favor such manipulation, and we shall give the plan a good trial in our house apiary this season. 24. Now I think after you have read all the above you will say, hold on, dear sir; I want a breathing spell. Well, the ignorant must learn, and you must not omit minutiæ, thinking because it is plain and old, everybody knows it; for here is where most of the uninitiated fail or lack knowledge. Now with your experience as a bee-keeper, and your knowledge as to hives, you should be able at once to say what kind of a hive will combine the most essential qualities; and if any one does not, why not alter or change it so it will? I see that King & Slocum say they have endeavored to make such a hive, and call it the Eclectic hive. It seems to have a recess similar to the Flanders hive I have described. In advising me, be not prejudiced against any, but name the best on its merits alone, for convenience of manipulation, and surplus honey. Give me your opinion of the Electic hive. A hive should not cost as much money as they charge. It should be simple, not intricate. If the frames could be examined and taken out without moving honey boxes, it would be an advantage, but I do not see how it can be done. A. There are many hives that allow of this, but the disadvantages are usually greater than the advantages. 25. Some say, the closer the boxes to the brood, or frame, the better; then how will you get closer than when putting the boxes right on the frames. A. By using a shallow frame you get the boxes closer to the brood than you possibly could with a deep one. 26. What is your opinion of my using, or utilizing in any way these new Flander's hives. A. "Utilize" as kindling wood any hive or thing that such men as Mitchell, Flanders and the rest of that crew ever recommended. 27. I have 6 of them which never have been used for bees. Say I purchase a few swarms of black bees this spring and say I do not. Would you recommend me to divide the swarm I have, and in so doing put it into another hive, and then divide again so as to have two new swarms or colonies—or would you let them swarm themselves? Perhaps they may not swarm; and perhaps if I am not at home they may go off. In either event say what you would do? If you would divide say when, at what time, and give me your plan. A. We certainly would not recommend you to *purchase* more bees at present, unless the one you have dies. 28. I have never divided a swarm, but I have gloves and bee-veil, and I think I can do it with proper instructions, OK. I shall try any how. I suffer very much from a bee sting, but by using saleratus after pulling out the sting, moisten it, put on the spot and rub it in, I never have it swell any more. It used to lay me up for nearly a week, if stung about the face or neck. A. To be frank friend F. we would advise you to delay considering the matter of division entirely, until about next June; if you will excuse the liberty, you need practice more than you do gloves. 29. What is meant by section honey boxes? A. Boxes composed of sections, and each section made to contain a single comb. 30. King & Slocum say they have been asked to give a complete and minute description of the Eclectic hive, and reply that the better way is to send for

[*Continued on page 62.*]

## *NEW ADVERTISEMENTS.*

## HONEY PLANTS AND TREES.

*Chinese Mustard*, 1 lb., $1.50; 1 oz., 15c.; per pkt., 5c.

*Black Mustard, Alsike Clover, Common Sunflower*, each, 1 lb., 40c.; ½ lb., 25c.

*Vetches, Rape*, each, 1 lb., 20c.

*California, White, Lucerne, Yellow Trefoil Clover*, each, 1 lb., 55c.; ½ lb., 20c.

*Italian Clover*, 1 lb., 35c.

*White, Yellow Bokhara Clover*, each, 1 lb., 60c.; ½ lb., 35c.

*Esparcette*, (or Sainfoin) 1 lb., 42c.; ½ lb., 25c.

*Silver Hull Buckwheat*, 1 lb., 15c.; per package, 75c.; per bushel, $2.00.

*Mignonette*, (common) 1 lb., $1.25; ½ lb., 75c.; 1 oz., 10c. (Parsons' New White), 1 lb., $10.00; ½ lb., $6.00; 1 oz., 80c.; packet, 10c.

*Catnip*, 1 lb., $12.00; 1 oz., $1.20; per pkt., 25c.

*Borage*, 1 lb., $1.25; ½ lb., 75c.; per pkt., 10c.

*Motherwort*, 1 oz., $1.00; per pkt., 10c.

*Mammoth Russian Sunflower*, 1 lb., 60c.; ½ lb., 35c.

*Basswood Seed*, 1 lb., 60c.; ½ lb., 35c.; per pkt., 5c.

*Tulip Tree*, 1 lb., $1.50; ½ lb., 85c.; 1 oz., 15c.

OUNCES and PACKAGES POSTPAID. Half pound or over, if to be sent by *mail*, add one cent per ounce for postage.

Remit at *our risk*, by P. O. Order, on Milton, Wis., or by Registered Letter, or Express, to Koshkonong, Wis.

Address plainly,

**C. F. Lane's N. W. Apiary & Seed Warehouse.**

2-3 Koshkonong, Rock Co., Wis.

**Queens. 1876. Bees.**

Bee-keepers in want of First Class Queens, (Imported or home bred,) Nuclei or Full Swarms, should get them at the Keystone Apiary. Price list, free. Address KEYSTONE APIARY, Corry, Pa. 3-5

## HONEY BEES.

SEND for E. W. Hale's price list of Queens for the year 1876. All Queens raised in full colonies and from Imported mothers. No Bee disease in my locality.

2-7d Address, E. W. HALE, Wirt C. H., W. Va.

## FOR SALE.

I WILL sell material for Standard Langstroth Hives, of good pine, cut ready to nail, every thing complete except nails and glass for $1.50 each.

F. M. DICKINSON, Whitney's Point,
2-3d Broome Co., N. Y.

## GLASS HONEY BOXES.

**Just the thing for Box Honey.**

*FIRST PREMIUM AT N. Y. S. FAIR*, 1874 *AND* 1875.

Circulars free. C. R. ISHAM, Peoria, N. Y. 2-3p

## SEEDS.

ROCKY MOUNTAIN Bee Plant seed and Chinese Mustard seed, at 20c. per oz., ¼ lb. 40c. or $1.25 per lb. I will warrant seed good, as we have tested it.

50cp2-4 A. A. RICE, Seville, Ohio.

## ARTIFICIAL HONEY COMBS,

Awarded the Medal at American Institute Fair, by a large and intelligent committee of

**PRACTICAL BEE MEN.**

Each pound presents a cell-surface of over 2100 square inches, which will weigh when filled, 60 pounds. No experiment, but an

**ACKNOWLEDGED SUCCESS.**

Orders for 1 Pound Samples, $1.50, Postage Paid.
Orders for 10 Pounds, per lb. $1.20, " "

Address, **JOHN LONG,**
**BOX 6, STATION C.,**
2p-tf **New York.**

## 125 Colonies Italian Bees For Sale at $7.50 Per Colony---10 for $70.00.

Bred from Imported Mothers; are in good movable frame hives, well painted; are in good condition.

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## CHOICE CATNIP SEED.

I have a lot of Strictly Choice seed, collected from cultivated plants by M. Nevins, of Cheviot, O., which I will sell at 50c. per oz., or at $6.50 per lb.

CHAS. F. MUTH,
3 8d Cincinnati, O.

**Material for Langstroth Hives.**

Including 10 frames and 7 inch cap, cut ready to nail for 80c., in lots of 30 or more. *Kiln dried pine lumber used.* Address J. OATMAN & CO.,
3-4p Dundee, Kane Co., Ill.

**Italian Queen Bees & Full Colonies**
AND
**Pure Bred Fancy Poultry for 1876.**

For Circular, Address Postal Card to Lowell, Garrard Co., Ky. 2p-5 R. M. ARGO.

## Italian Queens For 1876.

Having disposed of all the black bees in our vicinity we are prepared to furnish *Choice* Queens, bred from *Imported* and *Selected* Mothers. Careful attention being given to the selection of *Drone Mothers*; allowing *none* but those selected, to produce them.

At the following *low* prices we will furnish

| | |
|---|---|
| 1 Unwarranted Queen | $ 1.00 |
| Safe arrival warranted on orders for six or more. | |
| 1 Warranted Queen | 1.50 |
| 1 doz. Warranted Queens | 15.00 |
| 1 Tested Queen in May or early June | 3.50 |
| 1 " " after June 25th | 2.50 |
| 1 doz Tested Queens after June 25th | 25.00 |

NUCLEUS STOCKS.

| | |
|---|---|
| Small Nucleus Hive and Tested Queen | $ 3.50 |
| 2 Full Sized Frames 11-12 and Warranted Queen | 4.00 |
| 4 " " " " " " | 6.00 |
| 1 Colony Pure Italians | 10.00 |

Satisfaction guaranteed.

Address, J. OATMAN & CO.,
2-4p7d Dundee, Kane Co., Ills.

## 50 Colonies OF Pure ITALIAN BEES.

Full Colonies in hives with 10 Langstroth frames, $14.00. Queens all reared in 1875 from Imported Mothers. Purity and safe arrival guaranteed.

Address, E. C. L. LARCH, M. D.,
2t5 Ashland, Boone Co., Mo.

## 500 Colonies of Italian Bees for Sale.

On account of my failing health, I will sell and ship, between May 1st, and May 20th, 500 Colonies of Italian Bees, in 8-frame Langstroth movable-comb hives in good condition in every respect, and guarantee safe arrival if ordered in lots from 1 to 20, shipped by Express, for the following prices:

Single Colonies, $11.00; 2 to 6, $10.50; 7 to 20, $10.00; 21 to 500, $9.00. Hybrids, 50 cents less.

Orders must include cash, or will not be noticed. If large lots are ordered the purchaser must run his own risk of safe arrival. Having wintered 1,400 colonies I will doubtless be able to make a satisfactory selection.

ADAM GRIMM,
Jan. 10, '76. 2-4d Jefferson, Wis.

## EARLY ITALIAN
## QUEENS FOR 1876.

I can send tested queens in the spring as early as the weather will admit. Also tested queens in strong nuclei of three full sized frames (17x9 inches) of comb, bees and stores. By purchasing these small colonies, all danger of losing the queen in introduction is avoided; besides they can soon be built up into strong stocks.

### IMPORTED QUEENS.

"This is to certify that Dr. J. P. H. Brown, receives Italian Queen Bees through this office, imported direct from Italy." C. H. BUCKLEY, Agent Southern Express Co.
Augusta, Ga., Oct. 11th, 1875.

During the season I shall receive invoices of imported queens, every few weeks, from a district in Italy that is said to contain the finest type of the Ligurian or Italian Bee. Send for circular to

DR. J. P. H. BROWN, Augusta, Georgia.

## HONEY EXTRACTORS!

Made Entirely of Metal.

**No Wood About Them.**

**PRICES, $8.50 to $10.00.**

**Circulars with directions for use on application.**

IN ORDERING, be particular to give us *outside dimensions* of frame or frames to be used. As we have procured the machinery for making every part on our own premises, we can supply Gearing, Honey Gates, Wire Cloth, etc., etc. Bearings, Stubs' Steel—Boxes, self-oiling.

A. I. ROOT, Medina, Ohio.

P. S.—Be sure and give width, *under* top bar of frame.

## Our Photograph
## MEDLEY OF BEE-KEEPERS,

Containing the photographs of over 150 of the Bee-Keepers of America,

**SIZE, 11x14 INCHES.**

**Will be mailed securely packed for $1.00.**

**We mention below a few of the most prominent pictures contained.**

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It will be sent as a premium for 4 names to GLEANINGS at $1.00 each.

A. I. ROOT, Medina, Ohio.

KIND READER, if you are in any way interested in

## BEES OR HONEY,

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THE *ONLY* RELIABLE.
THE *MOST* BEAUTIFUL.
THE *MOST* ECONOMICAL.
THE *MOST* DURABLE.
Requires no oil thinner or drier,
Requires no waste of time in mixing,
Has stood *eight years' criticisms*
With *yearly increased popularity*
And *yearly increased* sales.

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| 1 lb. Round Jars per gross | $5.50 |
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| Corks " " 75c. and | 1.00 |
| ⅓ Pt. Honey Tumblers, plain or ribbed, per doz.. | 40 |
| 6 doz. in a box. Packages | 40 |
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| ⅓ Pt. Honey Tumblers, Tin Top, per doz | 65 |
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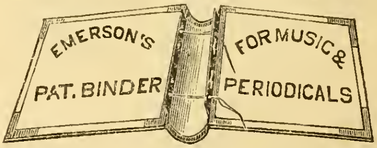
Also Window Glass, Lamp Chimneys, and Glassware of all kinds. For sale by B. L. FAHENSTOCK, late B. L. Fahenstock, Fortune & Co., Glass Manufacturers, 76 Wood St., Pittsburgh, Pa. 1tf

**FULL STOCKS** of as good yellow bees as are produced in any country at $15.00 each.
2p J. M. MARVIN, St. Charles, Ills.



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders.

A. I. ROOT, Medina, O.

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We will send GLEANINGS—

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| With The American Bee Journal | ($2.00) | $2.75 |
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| " The Bee World | ( 2.00) | 2.50 |
| " All three, The Bee Journals of America, | | 5.25 |
| " British Bee Journal | ($2.00) | 2,75 |
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SENT postpaid on receipt of price.

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These are the best, but are all far behind the times.

| | |
|---|---|
| A Manual of Bee-Keeping, by John Hunter | $1,25 |

This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

**Cards.** 25 with your name printed on them for 15 cents. R. W. CLARK, Medina, Ohio.

# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

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*Publisher and Proprietor,*
**Medina, O.**

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**TERMS: $1.00 Per Annum in Advance; 3** *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

Vol. IV. MARCH 1, 1876. No. 3.

## CALIFORNIA.

DEAR NOVICE:—If I wait until I receive the January number of GLEANINGS before I write you, my communication will not reach you in time for Feb. No. Does not this remind you that we need a Bee-Journal on this coast? How would it suit you to come to Los Angelos, or somewhere else on the coast, and publish GLEANINGS here? You can find plenty of nice places to put up your windmill, and will have nice breezes to run it.

There is no doubt in my mind that Southern California is the best place in the Union to make the bee-business *pay*. Our resources are only very imperfectly developed as yet, in that direction. We want more *thorough* bee-keepers; men who understand the business and *will work*. We want a first-class Journal too, to help us in developing this pleasant and profitable pursuit. We want a better market. How would it do for us to open a trade with Europe? I think we could ship honey to Great Britain at a very moderate cost. Vessels are sailing almost continually from San Francisco and Aspinwall, and even if we could not get them to touch here, we could send our honey to San Francisco and from there to Liverpool or Edinburgh, at a cost probably not exceeding 2 cents per lb.—that is by a sailing vessel. Now if we had a reliable house to send our honey to we certainly would realize a better price than at present, or even better than we could anywhere in the United States. The great trouble in America is that retailers *always* charge too much for their services; while in England or Scotland a retailer works for much less profit. It seems to me that we could realize much more for our honey. In Scotland I understand that strained or extracted honey retails at 30cts. per lb.; of this the retailer will not want more than 5cts., while in America he would want 12½ or 15cts.

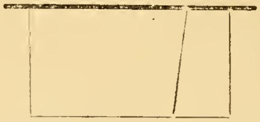
Please give us your idea on this subject, and also the name of some *reliable* house in Liverpool, Edinburgh and other important cities of the old world. It would be a source of great satisfaction to us if we could have a *sure* and *reliable* market for our honey.

There are many men coming to this and adjoining counties to go into the "bee business." There is one great fault with them all. They expect to find a pleasant place in some beautiful canyon, well provided with plenty of pure water and a small field of nice cultivating land—a good place for a few cows, a number of chickens, etc., etc. Now these places have all been taken up long ago; but still there are places equally as good for bees, yet troublesome to get to, and probably no water except by digging some 20 or 30 feet. There is an immense amount of honey wasted every year for want of gathering, and there is room for many more bee-keepers here, if they will consent to work hard for a week or two to make a road to their location, as well as go a little farther from the railroad. Redwood lumber which makes excellent hives is $15 per M, dressed on one side.

The season is fast coming on for transferring bees, with us at least. I will therefore give a few hints on

### TRANSFERRING.

My assistant drums the bees out of the old hives into an empty box (I suppose it is unnecessary to describe minutely this and other simple operations so often described in books and journals,) and brings the hive into the honey-house. I then cut the combs loose from the sides of hive with a long piece of iron sharpened like a chisel; then pry open the box and cut the combs out carefully. More skill is needed in cutting out combs than in any other operation of transferring. In cutting out combs separate them, laying all straight nice worker comb not filled with honey on a board by itself. Reject all drone comb and put honey into strainer. For fastening comb into frames I have provided an extra number of side bars of frames, and remove the triangular guide from top bar of frame. I then place the frame over a comb and trim the comb to fit, using all the economy with combs that I can. It does not make a *particle* of difference whether the comb goes into the frame with the same edge up as it was in the old hive, the books to the contrary notwithstanding. Of course if a comb will fit into a frame with its top edge *down*, it will also fit with the top edge *up*, and we always put such combs into the frame in their natural position. But should a comb fit better by putting its top edge to the side of frame, we never hesitate one second. I have transferred *thousands* this way and *never* saw any difference. It is seldom that we find a comb large enough to fill the whole frame, hence we fit it into one side of the frame and place an extra side bar in the frame, pressing it up closely against the comb, and nailing both at top and bottom. This holds the comb steady. If you prefer to remove this extra side bar you can do so, but it will be but little in the way. If a comb is not large enough to reach from top to bottom of frame, I trim the edge against which I press the extra side bar, a little beveled, making the bottom edge narrower, thus:



This will hold the comb firmly to the side and top of frame, and bees will soon fill the empty space below. I sometimes put in two extra bars to hold as many pieces of comb in the same frame.

I have done a *great deal* of transferring, probably as much or more than any other man in the U. S., and I find this the easiest, quickest and most secure way of fastening combs in frames. If a frame is only partly filled it is well to put a guide on under side of top bar, in the empty space. After combs are all fastened in frames, if the weather is warm and bees are doing well and will build comb immediately, it is well to alternate frames filled thus, with empty frames in the new hive. After all are arranged, hive the bees in the new hive and place on the old stand. The whole operation does not take me over 20 minutes.

AMATEUR.

You have had far more experience friend A., yet we can but think that our readers generally would succeed much better by omitting the drumming out part entirely.

We heartily sympathize with you in regard to exporting honey, and hope our readers in the countries named will lend you their co-operation.

We think our journal will be of more value to the mass of our readers, if we stay in a locality where we *have* constant difficulties to contend with.

## WHY DO BEES DESERT THEIR HIVES !

EDITOR GLEANINGS:—This morning was beautiful but somewhat windy and the bees were on the wing from all our hives. and carrying in pollen freely. The Japanese quinces, which are in full bloom, were thronged with bees. It was from this they were gathering pollen.

Well, we had a very, very strange freak occur with our bees to-day. We had been around to every hive and discovered nothing wrong. We then went to the house and had been seated but a short time, when a neighbor came in, and informed us that a swarm of bees had alighted on and entered one of his hives. We visited the spot and found that a considerable warfare had been going on. He informed us that the swarm came from the direction of our apiary. so we returned and found one of our hives besieged by robbers. We opened and examined it—found freshly laid eggs in abundance—showing that they were not queenless. also larvæ, sealed brood and an abundance of stores, pollen, capped and uncapped honey. Now, for the life of me I can not conceive what made them desert their hive. Can you give us any light?

I never heard of anything of the kind before; on the contrary, my understanding has been that they would not desert brood, but here they desert honey, pollen, eggs, larvæ and brood. WM. J. ANDREWS.

Columbia, Tenn., Jan. 23, 1876.

Since the wintering maladies, such cases have been quite frequent in some localities, although as a general thing, we believe it is mostly confined to weak colonies. In our own apiary, it seems most likely to occur on some very warm pleasant day, say the first one after a long cold spell; and it seems to happen especially, in hives where they have just commenced to hatch out their first lot of brood. One of our neighbors, a few years ago, had something like 40 colonies swarm out thus in one day, but they were all properly nuclei. As a general thing, strong, full colonies will not do this, although there may be exceptions. The want of pollen has been ascribed as a cause, but such seems not to have been the trouble in your case; we think different causes may have produced the discontent, for discontent it undoubtedly is; but that feebleness in numbers is the great main one. At one time it was suggested that indoor wintering had something to do with it, and that a poor queen might be the cause of the stampede; but many reports, and introducing such queens to other strong colonies, have dispelled all such theories. That they evidently are dissatisfied with something, and wish to shake it off, or that they, like some "humanity" cannot let well enough alone, is about as far as we can go. We believe we have had no case reported where a *very* strong colony with plenty of everything thus deserted.

Since writing the above we see by the *Magazine*, that "Walks and Talks" had even a more serious time than did we on that pleasant New Year's day; his, in the shape of this same swarming out mania. The reason suggested by the Editors, will hardly apply to the cases that have come under our own observation, for we have seen the bees go through all the swarming movements at such times—page 52, Vol. III—and our neighbor Shaw mentioned above, tried caging the queens with a great number, but it made no difference at all; they swarmed out all the same. We trust friend Burch will suffer no serious loss by the strange freak; as we gather by his remarks that his colonies were quite strong, it mystifies this trouble more than ever, and we would advise a careful watch when the bees are first put out.

## WHY DOES THE QUEEN LAY EGGS THAT ARE NEVER USED? ETC.

IF the weather continues warm ought rye meal to be given the bees as early as they will carry it in? I notice that they destroy the eggs—or remove them from the combs. Is it because they have no bread on which to rear brood? The weather for twenty days has been warm enough to mature brood. And the want of bread is the only reason I can assign for their not rearing brood plentifully. Is it because the proper time has not arrived, and their instinct teaches that it will not do to attempt to rear brood, when a cold snap is liable to come at any time and chill it? Then why don't the same instinct teach the queen not to lay eggs? I will have 32 colonies to begin with this season, 18 of them with pure Italian queens. Seventeen in Langstroth, and the remaining fifteen in the American hive. I intend to transfer them all into the Langstroth, as that is my choice.

I am only an amateur apiarian, and the veriest novice at that. I only began it to employ my time when not professionally engaged—but am very fond of it.

JNO. E. FRY M. D., Lynnville, Tenn., Jan. 9th, '76.

We don't know, but are inclined to fear that feeding them *too* early sometimes is a detriment. We have often noticed that the queen lays many eggs in the spring that are never used, especially if the colony is small. Sometimes it is on account of a want of pollen, again it may be paucity of numbers; and most of us have seen the queen clear outside of the cluster when an occasional warm day intervenes; but these eggs disappear daily and others take their place, showing that the queen at least is disposed to do her part. Just how far a nicely fitting division board and contracted brood nest may help matters, we are at present unable to say; but we hope our readers will help us to experiment in the matter. That the proper season has little or nothing to do with it, we demonstrated perfectly in our experiments with the glass house, for we reared brood and perfectly formed bees every month in the year, by giving them an artificial warm temperature. With a very populous colony the eggs will be cared for, and hatch healthy bees even when we have a zero temperature. And we are much inclined to think the queen is perfectly in the right, and that it is an unnatural state of affairs when there are not bees enough to care for the eggs she lays. After the honey season has closed and the great time of brood rearing is over for the season, the queens are much disposed to take a sort of a rest, but proper temperature, and fresh daily accession to their stores will very soon start them up again, as we have repeatedly proved, both out doors and in the glass house.

The L., or some other shallow form of frame, we think is to be the one most generally used in the future. One of the very best essays on hives and frames that we have ever seen, is given by the Rev. J. W. Shearer, in the Feb. No. of the Bee-Keeper's Magazine.

## LIGHT COLORED BEES.

I HAVE to record the past season as the most unfavorable for honey in this locality we have had for many years. No surplus honey, not even enough to spread one "piece." Only an average of seven lbs. to the hive first of Oct. Bees in abundance all summer. Have fed most of them and stored in cellar, where my bees have always wintered to my entire satisfaction for many years. Some colonies that were entirely destitute of honey Oct. 1st, were allowed to perish outright—although they were fine looking Italians, we did not deem it economy to keep such poor honey gatherers.

I was among the first if not the first to introduce the Italian bee in the state of Virginia; and have always taken great pains and pride in breeding these bees up to the greatest degree of docility and brightness, but now I am compelled to say that they have disappointed me most bitterly as honey gatherers, and I have been superseding them by the dark colored Italians. The poor hybrids I used to fight so vigorously are now permitted (as long as the drones are pure) to rest in peace with their blunt smoky appearance and well filled honey combs. Now I do not like to "go back" on these bright bees, but it is my honest conviction that they are inferior as workers in comparison to the dark colored Italians or hybrids. I know many breeders will feel a little sore and indignant at these statements, but I am willing to stake all my earthly possessions on the assertion that every breeder of clear observation has, to his great disappointment been compelled to acknowledge what I here do, relative to this inferiority of the bright colored bees as honey gatherers and comb builders.

I have some queens from imported mothers, that produce very dark bees; some producing what I take to be hybrids, and in all of these colonies there are enough stores to carry them through, while my finest looking bees were entirely destitute at first of Oct.

In Italianizing bees for a neighbor living three miles from my apiary, I took from one of his hives a native queen that had mated with an Italian drone, and to test the matter I introduced her into a hive in my yard, (being careful to not let any of her drone progeny mature), and I have never yet had a queen of any kind or cross that produced workers that would bear a favorable comparison to the bees from this queen, as comb builders and honey gatherers. Of course they had the disagreeable habit of getting down off the combs and "piling up" when their hive was opened; but I don't care for this, so they do not call for A, coffee sugar the year round.

Do not think I am going into the old black bees again, far from that. Now I have "squealed" from trouble with the "beauties" and call for the decision of the fraternity on this point. J. A. BUCHANAN.

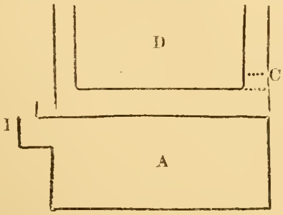
Wintersville, O., Dec. 18th, 1876.

## LAMP NURSERIES, ETC.

### ESPECIALLY THE "ETC."

FRIEND NOVICE:—I write this, requesting a little aid from you in relation to making a lamp queen nursery. I am building a new bee house, and wish to construct a lamp water heater, not only for the purpose of hatching queens, but to heat the building when necessary, and in which to melt candied honey. I supply considerable honey in cans to our stores and find frequent heating of honey necessary. If I daub pails, pans, and the newly blacked kitchen stove, our better half is sure to call our attention to it by calling us "old honey," or "old beeswax." Now we dont like to be called "old beeswax," so we are going to adopt a plan for melting honey in our bee house. We can then be monarch of all we survey, and if our better half comes around she'll get called "old broomstick," or some other awful name just as sure as fate.

Now my idea of a nursery or heater is as follows: Our frames are 14x11. I will make a tin tank 15x12x12, this will contain about nine gallons of liquid honey, or eight frames. Now, making an outer case just two inches larger each way would give room between the walls for about nine gallons of water. What I wish to know is, would two inches all around, be space enough for water? or shall I make it larger? I would also construct the bottom portion of tin or sheet iron, so as to use one or more lamps as necessary. You will understand my idea from this diagram.



The case A, is made of sheet iron and connects with the ventilators, by the pipe B: at C, is a gate for drawing off contents of the tank, or receptacle D.

I am building a bee house partly on the plan of the one given on page 132, Vol. II, only mine is 12x18 inside. Will have a roof and will fill in on top of the bee room with saw dust; propose to put up a ventilating pipe in one end. I shall run a car out of the bee house upon which I can place 10 hives; when they are run in from the yard the shelves will be close to the car and the hives can be shoved off easily from one to the other. My house is only partly finished, but when my plans are carried out, I shall give you full diagrams of the yard and house.

Bees are all right thus far, in the cellar. I have observed one thing friend Novice, in relation to wintering out doors, I don't care how cold the weather from Dec. until Feb., bees will generally live; but from Feb. out, cold weather tells upon them fearfully. Did you ever hear of *good* stock's dying during the first half of winter?

J. H. MARTIN, Hartford, N. Y., Dec. 15th, 1876.

We think your better half is probably quite excusable for calling you the names mentioned, judging from some similar experience we have had; and this reminds us that the bee-keeper's golden rule should be to leave no untidiness—not to mention stickiness—about his wife's domain, that he would object to having her leave about in his place of business. Even farmers sometime scold like—like—"men folks" when the "women folks" happen to come into the barn and scatter things about, or carry off the ax, hammer, or some other tool; and now while keeping bees, be careful that you use your wife's room and implements precisely as you would have her use yours. A very safe way is to provide large newspapers—heavy sheets of brown paper will be better if you are going to do much daubing, and we know from experience that when a man starts out you never know how *much* of a muss he will make before he gets through—and spread them out in such a way that you can clear all up in a twinkling when you are done. This is a simple matter but you may get disgusted with yourself unless you *do* take some pains to keep things neat and tidy. Go about your work as if you were expecting visitors every minute; keep things so clean and orderly that you can preserve a pleasant smile during all your work, just as you would if you were running a new locomotive that you had built all yourself. *Please* don't ever get down so low as to *scold* either your wife or children, whatever absurd thing they may do or say. A father should at all times bring sunshine into the household; and by the way we will end this subject now, if you will permit us to advise the women folks in future to call us men folks to our senses by the appellation "old sunshine" instead of "old beeswax," and if we don't look good natured and submissive at once you can set us down as "poor cre'ters."

We can find no fault with the plan of the lamp nursery, but would suggest that it be so arranged that the lamp stands at least one foot below the nursery, as this gives a much better effect than if the chimney of the lamp is closer. A nursery made of tin, does not last very long, unless taken better care of than our own has been, but as it was for an experiment, we made it of the lightest tin, and then left the water standing in it not only all summer, but actually left it so late that it froze up, and it is hardly strange that it now troubles by leaking. After you are through with it for the time, it should be carefully drained and dried; your wife knows how. We have thought of making them of copper or galvanized iron, but both of these would be objectionable if used for melting candied honey. If made of heavy tin and carefully used, they will doubtless last 8 or 10 years. One inch space between the walls is ample, and perhaps ½ inch would answer;

but the larger the body of water, the longer will it hold an even temperature, even if the lamp should burn out. The outer and inner walls should be united by short strips of tin, to prevent the walls bulging when filled; about one such piece in the centre of each side, and two between the bottoms, will answer.

Colonies with thin watery stores, frequently die in Jan., and sometimes in Dec. Two cases have occurred in our vicinity where bees died of the bee disease—apparently—in early winter; one was fed on very poor maple syrup, and the other on sweet apples boiled up to save buying sugar.

P. S.—Instead of the sheet iron box, we have always used a stove that we bought for a very small price, from a heap of old iron. Before we moved it into the house apiary we borrowed some advice and stove blacking of Mrs. R., and it soon was in very fair trim to show to visitors. Of course the lamp is perfectly safe when shut up in the stove, and as the top lifts off, the nursery is just at the proper height above the lamp, without any fixing.

## GRAFTING QUEEN CELLS.

I SHALL describe the operation by this name for want of a better. This is no fanciful theory, but a matter of fact which is easily accomplished in the following manner:

Select queen cells with larvæ not more than 36 hours old; with steady hand gently insert a sharp-pointed instrument under the larva and lift it out without disturbing the royal jelly. Carefully replace it with another larva about the same age, taken from the brood of a choice queen. If skillfully done the bees will nurse it into a queen just as readily as if it were of their own brood. That such queens are as good as any, when reared at the proper time, with the necessary conditions for rearing good queens, has been abundantly proven the past season. I have 11 such queens all of which were very prolific and became the mothers of powerful colonies, all of which were crowded, in two-story and double-width hives.

This process is of vast importance to those who can not get an imported queen, or one of undoubted purity, as they can Italianize their whole apiary, or change their entire stock of bees with such a quantity of eggs or larvæ as can be sent by mail or obtained from a neighboring apiary.

If queens are reared for sale by this method, too much care can not be taken to prevent mistakes.

E. C. L. LARCH, M. D.

Ashland, Boone Co., Mo.

We can add our testimony to the above, having reared a number of fine queens by this method last fall. In one case we found it the only way we could get the start of a hive of vicious hybrids; but justice demands that the credit of the discovery be given our friend J. L. Davis, of Holt, Mich. He first gave the particulars on page 107, Vol. 2; naming it Davis' Transposition Process. When we visited him last fall, we saw some beautiful queens, reared from larvæ which we sent him by mail the year before.

## Honey Column.

I HAVE now on hand only about 1,100 lbs. of my last year's "crop" of extracted honey. I have shipped 1 barrel at 15 cents delivered, and have sold at retail nearly 2,400 lbs.; mostly in pails varying in size from 1 quart to 5 gallons, at from 15 to 20c. per lb., according to kind and quality. My retail trade in extracted honey is annually increasing, while I have not changed the price in three years, which is certainly not *very* discouraging, considering the fact that I am in the backwoods, eight miles or more from *everywhere*.

I have no desire to dissuade any one from taking just such course in the management of his bees as he thinks will result to him in the greatest profit; yet I think there is one fact which those who contemplate a return to the production of box honey should not overlook, viz: That while there has been a material decline in the price of nearly all articles required for family use, there has been no corresponding change in the price of box honey. It must come sooner or later, and a general return to the production of comb honey would only hasten that result.

Since writing the above I have received GLEANINGS for Feb., and can not resist the temptation to add that it affords me the greatest pleasure to see in it "right smart" symptoms of returning reason on this subject. Others may do as they please, but as long as I can obtain three times as much extracted as box honey, and can sell the former at more than half the price of the latter per lb., me and my bees will *pile* it in barrels. J. H. TOWNLEY.

Tomkins, Mich., Feb. 4, 1876.

In 1874 I sold a barrel of candied basswood honey to a grocer, and calling on him last fall, found about one-third of it still on hand; and upon testing it found that it had undergone a decided change for the better, and was the most delicious sweet that I ever put into my mouth. The barrel had set near the stove all the previous winter, was undisturbed during the summer and had thus ripened and greatly improved. It had not hardened any more, being near the bottom of the barrel without any drainage.

Last fall I had a barrel half full of basswood honey which candied while the barrel lay on its side. In turning it up to take the head out, the honey stood up as firm as a cheese, and in a good condition to drain, one-half the barrel being empty. The upper part of the honey became quite hard and white, and I cut out chunks and wrapped it up in paper for customers.

Having seen some account of sugar being made dry by throwing out the molasses by centrifugal force in a perforated revolving cylinder, the idea struck me of sending a barrel of candied honey to some sugar refinery to have it operated upon to see what could be made of it; but I have not been in a situation to do so, and I now make the suggestion to those who may have a better opportunity of doing it than I have. Could it not be tried in your improved extractor on a small scale to see if the liquid portion could be thrown out? THADDEUS SMITH.

Midway, Ky., Feb. 4th, '76.

We confess to have at first, been much elated at the idea of making dry honey at once, by the use of the extractor; but a careful experiment, seems to indicate that thick honey is too tenacious to come out of the candied blocks. The plainest, and perhaps easiest way, is to fill your barrels half or two-thirds full, and as soon as candied solid, stand them on end and take out the head; in a few days the upper portion will have become hard and white. Basswood is the only honey that we have succeeded thus far, in converting into blocks that are perfectly white.

As sure as you live, some city honey has made its way into our town after all; and what is more it seems to sell quite briskly. It is comb honey in section boxes similar to those we make, except that the sides are covered with glass, and over the joint is pasted pink tissue paper. A careful examination shows that the honey was stored in a frame made of ¼ pine strips about ¾ inch in width. These frames when removed from the hive, are put into another one about 1½ inches in width; the latter being just large enough to slip over the former, and fastened with brads, thus enabling us to have the outer one of clean new pine. The glass is held in place by the paper, and by two of the pieces of the outer frame being 1-16 wider than the rest. This looks very pretty, but the two frames and the two lights of glass, weigh one-half as much as the honey; as it is retailed at 2 cts. per oz., frames and all, it is rather expensive to the consumer. We paid 67 cents for one of the sections—over 60 cents per lb.—and as others were doing the same, we really don't know but it is all right to put it up in that way and let people waste their money if they will. But stay! suppose the grocer had offered them the same for 2 cts. per oz. with the extra frame and glass omitted. It may be that even then, many would prefer the glass and fancy paper. No one buys honey at this rate regularly; it is only because it is neat and something nice to show to one's friends. On the whole we think we will have to make some glass cases for fancy box honey, if people will be so foolish—just as we are, and have always been—and we will make them just right to hold our Universal section boxes.

P. S.—To be exact we have cut out and weighed the honey, and there was 18½ ounces—57 cents per lb.

The honey mentioned was from California. On taking it home we all as usual pronounced it beautiful, but before we had used just that 18½ ounces we all agreed that it was a flavor one would much sooner tire of than our own clover honey; and we do not know but that we shall have to agree with the rest in regard to the mountain sage honey. *Fifty-seven* cents per lb. has a tendency to spoil the flavor of any thing, at our table.

For GLEANINGS.

## COMB HONEY, HIVES, ETC.

OUR friend, G. M. Doolittle, in former No. of GLEANINGS, gives some very good ideas regarding box honey, which have helped me in my arrangements, for the same purpose.

My hives were made 19½x27 inches inside measure, which makes an admirable one-story hive for extracting. I use two entrances in front side. Holds 18 frames when used for extracting honey. I also had constructed an inner case that would hold 6 frames 10x18, this case is then set into the main hive with its longest side parallel with the longest side of hive and back from the front of the outer case just far enough to admit one tier of 6 of Wheeler's improved boxes, single comb. I can then put two tiers at back side, and by moving it a little to right or left can put one tier (4) at one end and two tiers (8) at the other end In using two tiers it is quite necessary to use tin separators. to give the bees access to the boxes cut two slots scant ¼ inch wide for every box, one at top and one at bottom of box.

The entrance is under the two outside boxes which are raised ⅜ in. Now to make this ornamental as well as convenient, the outer part should be made so as to lift off, leaving the boxes on all sides in full view. Of course you want a cover for the brood chamber, as well as for the outer part, which should be 1 inch wider, or higher, than the inner one which is 11½ inches. One advantage gained is you can remove any of the boxes you choose without disturbing the rest, or you can remove one or all the combs in the breeding apartment, without disturbing the boxes.

Now, when all is arranged you can let friend D. crowd as much as he likes, and right here let me add, if you have more honey in the brood chamber than should be, take the outside frames and after uncapping exchange them with those in the middle. If this is done during a moderate yield of honey, and your bees are strong, you will find the honey going into the boxes; and that the uncapped honey in the center of the hive is also stimulating brood rearing.

If more boxes are required you can put as many on top as you wish. For top boxes I use those made by G. T. Wheeler, Mexico, N. Y., including cases to hold boxes and tin separators, all to be used as one box.

Mr. W. glasses only the outside boxes before being filled. If prepared after filling, the glass comes close to the honey, and is clean, besides obviating the necessity of pasting over holes to keep flies out. &c. He intends to make them of strawberry box material this season, making the lightest and cheapest box in market.

As we are through with the boxes, the next feature is the advantage in wintering. I set the inner part with the bees and honey, in the middle of the outer case; then connect the entrances by laying two strips ⅜ inch thick, and long enough to connect the entrance of the inner to to that of the outer part and cover over with a thin piece of board as wide as the ⅜ strips are long. These should be bradded together, and will keep anything that may be packed between the two parts, from clogging the entrance.

Now we are ready to fill the space all around the bees with straw or chaff, which can be packed with 240 lbs. if you choose; I use 220 only. [See page 135, Vol. II.] The chamber can also be filled but I think it unnecessary; I make it as close as possible at top. The slots cut for the honey boxes give ample chance for the moisture to escape. Thus you have all the advantage of a straw hive *protected* for winter.

I am so well pleased with the above, that I wish to leave it for criticism, through your valuable paper.

Now about swarming: As I have plenty of room at the side, I use but few boxes on top; consequently I can examine them every week, change the honey in center and cut out all the queen cells. Of course the queens' wings are clipped, and it is done in this way: The first season after a young queen begins to lay, I cut two wings on one side, the second year cut one wing on the other side, and the third year cut the last wing. Now can you say I can not tell the age of my queens by the looks of them?

Let me tell right here how I pick the queen off the comb. Last fall it occurred to me to fix a swab from a feather or rag, on the end of a stick, dip this in honey then on the old queen's back; if you have about the right consistency of honey, you will remove her with it. At all events, you will fix her so she can't fly.

Once more. My experience is that a young queen after she is fertilized, seldom, if ever, leads out a swarm the first year. I therefore use such where I wish to abstain from swarming.

And now Mr. Editor, let me say a few words about introducing queens. My method is this: Remove the old queen, using smoke pretty freely, and replace the frames as they belong, smoking the bees down at the same time; now take the queen you wish to introduce and drop her in at the top, cover up the hive and give them a few puffs from the entrance and all is done. I have never lost one introduced in this way. The principle is this: All admit that bees detect a stranger by smell; and by the time the smoke is over, the queen is theirs beyond a doubt.

There seems to be much questioning in regard to introducing queens, and as I am very successful with the smoke, I consider it the easiest and most economical way yet described. And by the way, did you receive the smoker I sent you last season? If so, how do you like it?

F. H. CYRENIUS.

Scriba, N. Y., Feb. 2d, 1876.

The hive mentioned does not differ very materially from the well known hive furnished by Mr. Quinby, although he reversed the frames only to give the space for packing material in winter. We have often thought of using the veneer made for fruit boxes, for honey, but the difficulty of holding this material firmly in place, even if supported by metal, has been the objection. So frail a commodity as honey in the comb, is very liable to break down unless the frame that supports it is stiff and strong; this quality can be secured in no way that we know of so well as with sawed straight-grained pine.

The smoker was received but was laid one side, with several others like it without even a trial; because they are all made on the old and well known plan of blowing them with the mouth. These can be made by any tinsmith, and among all that have been sent us, we discover nothing different from the plans described in both L. and Q.'s books. After one has used one of the bellows smokers, such as Quinby's, we think they would never wish to use one to be blown by the mouth. The objection to nearly all smokers at present, seems to be the frequency with which they need cleaning of the soot that accumulates in the tin tubes. Using rags instead of rotten wood seems to be a partial preventive, but the latter are more expensive. Something more durable than the Q. smoker is needed; they come to pieces badly, with ordinary usage.

## EXTRACTING AND STRAINING THE HONEY.

IN your Feb. No. of GLEANINGS, you are advising our friends to place the extractor above the barrel, and have the straining bag, in the bung-hole, etc., in order to facilitate labor. Allow me to give my idea in regard to that matter.

We are emptying a good many barrels of honey, and whenever I see a barrel opened and part of the honey solid, while a quantity of thin watery stuff is collecting at the places from which honey is taken, I feel quite sure that the man who sent me that honey is occasionally troubled with sour honey; and also that he runs his honey into the barrel direct from the extractor. He belongs to that number of our brethren who talk about "ripening honey before extracting."

I tried, some time ago, to show why honey would sour in my cellar, when it would not in the store. I tried to show that honey in a tight, covered bee hive, would get sour for the same reason. I had this winter a number of super boxes with comb honey sent me from other parties. The honey in the uncappped cells, and even that in many of the capped cells, was sour. Here I claim again that it was not the thin fall honey that caused the souring, but the cellar-like enclosure in which the honey was kept, and the moisture arising from the bees and settling on the honey. Had this this thin fall honey been pumped off and kept in open vessels for a short time only, it would not have soured. On the contrary I am sure it would have—ripened?

Look around among your friends, brother Novice, and satisfy yourself if there is one that gives his machine extracted honey a few day's evaporation in an open vessel, before barreling it, who speaks about his honey souring, or his honey being ripened.

Honey ripens (if so we may call it) in an open vessel much better than in a bee hive; and while I consider a strainer unnecessary, I consider it damaging to the quality to run the honey direct from the pump into a barrel. It is not very expensive to have, during the honey season, a barrel or two, standing upright, the head out, and an iron guage or a wooden stopper in below. In these barrels the honey should be allowed to stand for a day or two; then skimmed thoroughly and barreled or jarred.

If treated in this manner, I feel safe in saying that there will be no more unripened honey. Besides, this mode of treatment gives us the chance of not only increasing our honey crop but also of keeping separate each kind of honey. This can not always be accomplished, if we allow our honey to be capped before we extract it, but is of great importance to both dealer and producer. It is of the utmost importance to all of us that the consumer should know what kind of honey to ask for.

The honey trade has been very satisfactory with me this winter, at least as far as quantity is concerned; and judging from the increased retail demand, I have reason to believe that my next year's business will be better. I have therefore made contracts for next year's crop with several parties, and am negotiating with others for machine extracted and comb honey. Comb honey, in the sale of which I had no confidence, sells too, and I shall have a good supply next season. However, comb honey will remain a fancy article only, and if an overstocking of the market takes place, it will be with comb honey, and not with machine extracted.

Some of our brethren complain bitterly that bee-keeping does not pay. This is very natural. Farming does not pay, and the same can be said of any other business. Sometimes *we* are to blame if our business don't pay, and sometimes we are not; but it appears that others get along if *we* don't. Would it not be something extraordinary if bee-keeping were a business in which none of us failed?

My bees are wintering first rate so far. With the exception of 3 queens only, I have lost none. My stands are all strong except one, and this one has bees in only three spaces between the comb, but brood in all stages. A few only of the balance have eggs.

CHAS. F. MUTH.

Were not the above from such excellent authority we might hesitate to give it; what is stranger still, Prof. Cook seems to be of the same opinion, at least so far as extracted honey is concerned. The first clover honey we took out last season was simply sweetened water, and although the hives were full, we stopped and put on upper stories. This thin honey was mixed with some that was thicker, and was allowed to stand in an open tin can for a week or 10 days; was then put into a barrel for retailing. The first that was drawn off was very fair, but it seems the thin honey swam on top, for toward the last it was like water, and finally soured. We gave all our customers who had used it, some better without charge, and we have little disposition to risk our reputation in that way again. Although the honey was worse in this respect last season, it is by no means the first occurrence of the kind; and such troubles, with our readers, are quite frequent. Are we to think friend M., that it is all because we don't use straw mats? Gallup taught quite to the contrary in regard to the ripening process, viz: hive crowded until bees filled it, etc.

## HOW SOON SHALL WE COMMENCE STIMULATIVE FEEDING.

### Shall we Feed in the Spring at All?

Last spring we did considerable feeding, both of meal and sugar; and by the middle of April we had sealed brood in abundance. But after the April freeze, as we then stated, we had apparently nothing left but the downy young bees—see page 63, Vol. III—and this seemed to be the case all through the apiary with the exception of a colony that was queenless until April 9th; strange to tell, the old bees did not die in this colony, and we could see no reason why they were an exception, only that they had no brood to rear, when the others were full of it. Now this colony, when the honey season opened, were very nearly as good as any of those that had been so busy on the meal for a month or more. Now comes the question: Suppose there had been no such freeze, how would they have turned out? We cannot say positively, but as we have had the same spring dwindling for several seasons past, it looks somewhat as if it might be just as well or better, not to feed before May or June, if we do at all. The following seems to bear on the point:

My report for 1875 is rather of the discouraging order. I put out 48 hives in good condition as to bees, but rather short of stores; I bought a barrel of sugar and commenced feeding early in April. Everything went all right for a few days, and then came a cold spell. On examining the hives afterward, I found much unsealed brood killed by cold. Bees began to get weak from dying and getting lost, and by the first of May I had but 33 weak swarms. Now I am very sure if I had let the feeding alone until the last of April or first of May, I would have come out in very much better shape. I conclude from this that the experiment of early feeding cost me about 18 swarms of bees and a barrel of sugar. Cheap enough! Hereafter I shall not commence stimulative feeding until the first of May, or nearly that. Finally I increased my bees to 53 very good swarms, and took about 1500 lbs. honey. The season, with us, was a very cold and wet one.

JAS. SCOTT.

Epworth, Iowa, Dec., 24th, 1875.

We confess we do not know what to advise in this matter, and would be glad of facts on both sides of the question. The number of reports in favor of stimulative feeding in the spring, (aside from the modern dwindling,) is so great that it would be folly to question it; but if it causes them to die more rapidly, so that we have wasted our feed and are no better off, we certainly had better look to it.

*Feb. 14th*—It may make mischief, but *we* do so love to see bees work, that we are going to ours; and we give the preference to outdoor feeding. We shall give them all the sugar they can carry away, from now—they are at it like good fellows to-day, and the queen in the Universal hive has a large circle of eggs and brood in all stages—until the flowers call them away. After fruit blosoms, if they will take it, they shall have the loaf sugar again, and so on whenever they can do no better.

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### OUR OWN APIARY.

FEB. 8th—It is warm again now, but we have just had a zero spell, and our colony that we purposely left with neither sides nor cover to their defenceless heads, except the cover to the upper story to keep off the rain, for the first time this winter seemed to be the worse for such treatment; in fact, about one-half were cold in death, martyrs to the cause of science. "So bees do really freeze" thought we; but an examination showed that they did not freeze, they only starved after all; for on one side of the comb where there was no honey every one was dead, but on the other where there was an abundance of stores, they were all alive. There was plenty of honey in all the combs except where the dead bees were found; in this there was none for several inches, and to get what there was they were obliged to go out in the cold or over the top of the comb, neither of which they could do during zero weather. Now it may be said that winter passages in the combs would have saved them; but even if it would, it will be cheaper to have plenty of bees, a good generous sized quilt tucked up nice and warm over their heads, and a division board to reduce the size of the hive as small as we can get it for wintering, consistent with an ample supply of food. All the rest of our colonies are in fair trim, and those in the house apiary, scarcely seem to have as yet passed any winter.

*Feb. 7th*—We have just put a colony into one of our Universal Hives; and their extreme lightness in handling, would of itself be a sufficient argument in their favor. As to their capability of standing the weather, keeping the contents dry, and drying off quickly after a storm, actual test will determine. We have an opinion that they will accomplish the latter more perfectly, if unpainted; in this state they approach nearer to the old straw hive than anything we have ever before seen.

*Feb. 12th*—Bees working on meal; we believe it is the first time we ever fed meal in Feb. We have just had some drenching rains, and to-day the sun has been very hot on the cover of the Universal hive. Although the metal holds the ends true, the middle does bulge in a little in its desire to warp, so that we think it best to have the covers painted. Otherwise the hive is as simple and efficient as one could wish; the sun and rain have no effect on the hoops whatever. One colony is dead in the house apiary; they died of starvation while there were combs containing several lbs. each on the other side of the hive. We left a few without contracting the hive by means of the division board, and this was one of the number. It was quite a good colony, but they were clustered on new combs, and were next the door; the door was left by the carpenter, with some rather bad joints, and we intended to tack on some listing, but didn't. Had the heavy combs been placed next the cluster, or had the hive been squeezed up until it would just hold the bees, or had we even fixed that door, we might have now been rejoicing in possession of the whole 36.

## Humbugs and Swindles

### Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

The 25 receipts for making candy did come to hand after all; but the entire sheet does not contain as much matter as does this page. The entire 25 are but repetitions with slight variation, of the following selected from among them:

*Common Twist Candy.*—Boil 3 pounds of common sugar and one pint of water over a slow fire for half an hour, without skimming. When boiled enough take it off; rub the hands over with butter; take that which is a little cooled, and pull it as you would molasses candy, until it is white; then twist or braid it, and cut it up in strips.

Mrs. Cotton seems to be quite fortunate in getting her adroit articles published in many of the agricultural papers; and one of her "reports" has even found its way into the Feb. *Magazine.* Please send for her circular if you think us too severe. We are patiently waiting for that "wonderful book" yet.

Mitchell seems to be prospering for he is flooding our readers with "special cards" with yellow slips attached. It is perfectly safe to read them, if you are smart enough to keep from having your name added to the already large list that he is going to send hives and queens to "after awhile."

### SOLD FOR TEN DOLLARS.

EDITOR GLEANINGS—*Dear Sir:*—I would like to say a few words through your valuable journal, in regard to a *wonderful hive* that is made by this same Mrs. Cotton you speak of, as having that wonderful book which is not printed yet. About one year ago I saw an article in the Portland *Transcript* written by her, in which she told of the wonderful results obtained by the use of her *Controlable Hive.* I at once wrote her, making some inquiries about the hive, and received in answer to my letter, that she would sell me one of those wonderful hives for *twelve dollars;* or would let me have one for a good stock of bees, to be delivered at her order. In reply I made her this offer: If she would send me one of those hives I would put a good strong swarm into it, try it until fall, and if it proved as good as she recommended I would pay her the twelve dollars; and if I thought it would not do for me, I would return it to her with the stock of bees in it, at my own cost. In reply, she said she would not do that, but that she had concluded to let me have one for ten dollars; and I was foolish enough to send the money. After waiting two or three months, it came. I was at the station when it arrived. I did not at first know what it was, but seeing may name on the top I examined it closely, and found an entrance at the bottom. I made up my mind it was nothing dangerous. I got a man to take hold of one side, I taking the other, and we started for my house which was on the other side of the village. But to tell the truth I was ashamed to have any one see it. I got it into my stable out of sight, and got the other man off out of the way. Now I could inspect the wonderful thing. But I will not go into details. I was confounded, for such a *botched* up piece of work I never saw for *ten dollars.* It had 6 frames 19⅕x9¼ inside measure, only one box (and that a second hand one with the glass out,) when there should have been thirty to make out ten dollars worth—at least I thought so.

But, Dear Novice, I wish you could see those frames. I have been tempted to send you one by mail; and I would if it were possible to get it to you whole. But it would fall to pieces before I could get it done up. Seeing I could not use the hive I gave it to my boy to keep a pair of owls in. It made a very good owl cage, but rather expensive. It was made of ⅜ stuff mostly, with one light coat of white paint, put on I should think with a broom, and a green hand at that.

I have ten stocks of bees; all have had a splendid fly to-day. It has been the mildest winter I ever saw in Maine. S. H. HUTCHINSON.

Mechanic's Falls, Me., Feb. 8th, 1876.

## HOW TO DO EVERY THING THAT NEEDS TO BE DONE WITH A COLONY OF BEES.

### WITH THE HOPE THAT IT MAY ANSWER A GREAT NUMBER OF QUESTIONS.

WE will suppose it is the first of March, and that you have purchased a colony of common bees either in a box hive or in any patent hive—it amounts to about the same thing—which you are intending to transfer. The first thing is to get the half bushel of sawdust, mentioned on page 41, and when your hive is brought home, put the bees on it and do not undertake to transfer them until they have been at work and feel perfectly at home.

### TRANSFERRING

is simply cutting the old hive in pieces and fitting the combs carefully into the frames of the new hive. It is best done while the bees are busy at work, and if performed skilfully, they should continue working during the whole operation.

Briefly; the work is usually to be done while fruit trees are in bloom—it should be done about 10 A. M., while the bees are busily at work. Smoke them and move the hive two feet backward, turn it over—put the new hive in its place and fix the entrance so nearly in place and like the old one, that the bees will go right in After they go in you must make them feel at home by giving them a comb of brood cut from the old hive—cut the old hive in pieces and cut out the combs neatly, carefully and quietly, keeping them in perfect subjection in the old hive by the smoke, as often as they show the least disposition to dispute about who is "bossing the job." Lay the combs on something soft to avoid crushing the honey and injuring the brood, while you are fitting the combs into frames—if you daub no honey about you will have no robbing—keep a towel, wash-bowl and water near you, and spread down newspapers where the honey is likely to drip—wear a veil if you choose, but please do believe us, when we say *again* that gloves of any kind are *worse* than useless. Cover both hives with a cloth, while you are fitting the combs, and keep the brood in your new frames in a compact cluster, as it was in the old hive—if you carefully fixed things before commencing, so there was no crack or crevice into which a bee could crawl, except into the entrance of the new hive, and if you have been careful—as you always should be—to avoid setting your (clumsy?) feet on a bee, you certainly have not killed the queen, and she is in one hive or the other. To be sure she is in the new hive, shake all before the entrance when you are done, and see that *every* bee goes into the hive. For a more lengthy "discourse" see May No. of 1875.

### DIVISION BOARDS.

During this month, a very fair colony will not need more than six combs; and they are much better off when confined to these six, than when spread over a greater number. The purpose of the division board, is to contract the hive until the bees fill it, even should it be only two combs, and to make them fully cover these before they have more. When they have all the cells occupied with brood, honey or pollen, they should have another comb, and be made to fill that. When the division board is used for this purpose, the bees are allowed to get back of it during pleasant weather, and in fact it makes an excellent place for feed when it is not too cold. If combs containing some honey be left back of this division board, they will soon carry it over, and it seems to have much the effect in stimulating, that natural stores do. The small channel along the rabbet usually affords them a passage way, or the division board may be raised about ¼ inch.

### FEEDING.

We prefer loaf sugar, or that sold at the grocer's as "crushed sugar," for all purposes for feeding, and the process is so simple that we hardly know how to give directions. If you wish to feed for stimulating, the least trouble is to put the lumps of sugar in the open air—protected from rain—but if you do not wish to feed your neighbor's bees, put the sugar on top of the frames under the quilt. In cold weather, you must be careful to put the sugar directly over the cluster of bees, or they can not get it; if the space under the cover is not large enough to admit of the supply you wish to give at once, put on an extra hoop. We prefer this way of feeding to any other, because it avoids all trouble from robbers, the sugar can be given any day in winter, and there is nothing sticky about it, as there is with all kinds of syrups and liquid food. More than all, this loaf sugar is the purest sugar that can be had, and never has produced any of the diseases consequent upon cheap sugars or any kind of watery food.

### BUILDING THEM UP.

Whenever you find they have every cell occupied with brood, pollen or honey, and all the combs covered with bees, move back the division board, and put an empty worker comb in the centre of the brood; should they be short of honey, it will be better to give them a comb containing some sealed honey, uncapping it at the time. Be very sure you do not spread them thus, too fast, during the cool spring months; and also be sure they do not suffer for want of room later in the season. When the hive is full of bees, or when honey begins to come in plentifully, you are ready to consider

### SURPLUS HONEY.

Quinby says with much truth, that it is of great importance that the boxes be put on just at the right time; and the only way to know when, is to keep a careful watch of their proceedings. When they begin to build little bits of comb at the tops and ends of the frames, it is pretty certain they will make a start in boxes, provided they have easy access to them, from near the centre of the brood nest. The boxes and sections we offer are made so that a strip of the bleached comb foundation can be fastened very securely, so as to make a ladder for them to the top of the section. A very little piece of comb will many times make a great difference; and if you can cut out a piece of new white drone comb from some of your frames, and put good large pieces of these in the sections, you can make a very sure thing of box honey, when they are getting any honey at all. This is some trouble, but it is only by faithful, hard work, that we can attain success in bee-keeping. If your colony is not large, it is a very good plan to allow them to go into only a few sections at first, covering the openings thus left, with the quilt; for if the weather should be cool, you may give them a serious check by opening the whole top of the hive into the sections at once. When they have commenced work in all the boxes, give them room as fast as they will use it; and if you have bees enough to begin work in 54 sections at once, give them a chance by all means; and if that is not enough, give them *still* more. Be sure you do *your* part.

If you are going to use the extractor, you need no farther directions than those given with our price list of extractors, unless it be to avoid robbing your bees. After you have had a few starve in consequence, you will know all about it, better than from anything we could tell you. When honey is coming in rapidly, *be sure* you keep it out of their way. You can do your extracting with only a one story hive if you choose, but we think you will get less, than if a two story hive be used, and your honey will be of an inferior quality. With the latter we would endeavor to have them keep all, or nearly all the brood below, and store their surplus above, making them build thick combs above, by using only 9 or 10 in the space that holds 11 ordinarily. If they start a lot of brood above, swap it for some comb below that contains none. If the upper story is left on until late, they are very apt to move "up stairs," queen and all. A beginner can get a good yield of extracted honey, where he would not get a pound in the boxes, and at present we regard it as the easier of the two ways.

### QUEEN REARING AND ARTIFICIAL SWARMING.

Do not commence any such work before your hives are are all full of bees, and are getting honey, and we really feel like advising you not to do it then. It will be much the more profitable way for you to build them all up strong, and then, if they *will* "pitch right in" and gather honey let them do it by all means; and don't ruin both yourself and bees, by untimely "tinkering," even if the books *do* say it can be done without injury. If you find a colony that is determined to swarm, it may do to divide them. During the honey season we want all hands at work; after it is passed and our hives are full of bees with nothing particular to do, we can set them to rearing queens. One "rousing big" colony, will then furnish bees enough for a dozen nuclei, if you really *must* fuss with little swarms of bees; but if you will be guided by us, you will if possible, have only strong stocks, and you can always *make* it possible in warm weather. In the spring we are obliged to use division boards, and to nurse up weak stocks, but if we always had strong ones in the fall, there might be less of this.

Doolittle says in regard to comb honey, "if a colony swarms, it does well; if it don't swarm, it does better." The best way we know of to get along with the swarm, is to shake it in front of the hive it came from, after it (the hive) has been carried to a new location. This will satisfy them, and they will work in boxes or for the extractor prodigiously. Even if your object is increase of stock, we would advise keeping them in their old hives as long as you can during the honey season; but instead of the extractor or boxes, put on an upper story, and secure as many combs full or partly full of honey as you can. When the yield begins to slacken, make your colonies, and give them a house well furnished to start with.

### HOW TO GET GOOD QUEEN CELLS.

These should be on hand from June until Oct., and to secure them, you are to put once in ten days or oftener, a clean worker comb in the midst of the colony containing your imported or best queen. When it contains larvæ just large enough to be visible, place it in a queenless colony, and in 15 days from the time the first eggs were laid in this comb—look sharp—you are to cut out the queen cells, or place the whole comb in the lamp nursery—page 75, Vol. III. If the former plan, insert the cells in combs of hatching bees, (from other hives) one in each, and these are ready to be put into queenless colonies or nuclei. If you wish to be sure the bees will not tear them down, cut them out two days earlier, and leave them, combs of brood and all, in the hive in which the cells were built until the 15th day, as mentioned: you can then quietly carry the comb, bees, queen cell and all, where you wish it.

### ARTIFICIAL SWARMING

Is simply collecting combs covered with bees and brood, one each from several hives, and putting them in a new hive, with one of our combs containing a queen cell. If we get the bees from several hives, they seem to be so bewildered that they all join peaceably, and we have no fighting at all. After the queen is hatched and commenced laying, your colony is made.

### ROBBING

will rarely trouble you unless you carelessly leave honey scattered about the apiary, or fuss with weak stocks or nuclei that are unable to protect themselves. If you find a colony being robbed, stop up the entrance as quickly as possible, and if everything else about the apiary in the shape of sweets is secure, they will soon forget about it and stop. Just before dark let the robbers go home, and if your colony does not take care of itself next day, either break it up, or give it bees from some other. It may at times be best to close the hive for several days until some of the young bees are old enough to stand guard. As a general rule, robbers, moth millers, and almost all other troubles, are the result of trying to nurse up weak colonies. For all these evils a pint of Italians are worth more than two quarts of common bees. Speaking of shutting the hive, reminds us of

### ENTRANCES,

and after giving the matter much study, we have decided to follow Quinby, in having nothing but a slot, $\frac{3}{8}$x3 inches, omitting all blocks, slides, etc. If your colonies are strong, you are not likely to need to close the entrance once in five years, and why should we encumber each hive with some complicated rigging that we are very likely to never use? If it *is* necessary to close a hive, we can do it quickly with a piece of newspaper, and if we wish it very secure, we can bank the sawdust up over it. If a colony has two entrances, they are sure to use the one toward the top of the hive, and it saves travel during the honey season to have it near the top; the hoop containing the entrance can be readily placed where we choose, and it is a very simple matter to arrange two entrances in the same manner.

### WINTERING,

may be summed up nearly, by saying that when the bees have plenty of well ripened sealed stores of honey or loaf sugar, and are put in either a good house or cellar, or even left on their summer stands, and *let alone*, they generally do well enough. We believe more bees are killed by tinkering with them in the fall or winter, than from any other cause, aside from unwholesome food. If you can not agree with us, try some other way until you are satisfied. If a hive is made of solid boards and covered with a tight honey board with all the joints gummed close, they will probably die from lack of ventilation; but if a quilt is used, this can not well happen. The strips that compose the Universal hive not only insure ventilation, but allow the hive to dry out much in the way that old straw hives do; in fact, a good colony of bees will by their animal heat alone, dry out the $\frac{3}{4}$ inch pine, as a horse dries off his hairy coat after a rain—If full of bees, the moisture should fairly *steam* out after a rain and this quality is better secured by leaving the *hoops* unpainted. Bees need a hive that will allow them to dry out, almost as much as corn needs a corn crib.

# Gleanings in Bee Culture,

, Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.
MEDINA, OHIO.

Terms: $1.00 Per Annum.
[*Including Postage.*]
*For Club Rates see Last Page.*

MEDINA, MAR. 1, 1876.

And if thy right hand offend thee, cut it off; it is better for thee to enter into life maimed, than having two hands to go into hell, into the fire that never shall be quenched. —Mark 9: 43.

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IF you are interested in wind-mills, either for running saws for hive making, or other purposes, write to U. S. Windmill Co., and be sure to tell them we desired you to do so.

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THE N. Y. honey house is shut up, and Mrs. Spaids is not to be found. The matter is especially interesting to those who have sent her honey for which she has never paid.

◆

WE have to-day—Feb. 27th—1,339 subscribers; this looks very fair, were it not for the fact that we have given away and paid postage on full as many sample copies since Jan. 1st.

◆

WE take pleasure in offering the *British Bee-Journal* for the very low price of $1.50, postpaid. Whatever may be said of *implements* the price of this Journal is very low indeed.

◆

WE have received a sample of friend Lane's Basswood seed, and should judge by the appearance of the germs that every seed would grow. It is quite difficult to collect and preserve such seeds in such excellent order.

◆

OUR next No. will have to be about half "Notes and Queries," judging from the pile of unanswered questions now on the table; but be patient, we will give them all, even if we have to put in *still another* leaf or two.

◆

WE fear we shall have to state in every No. that no one need buy a right to make any hive or anything else that we offer for sale. If you can make them cheaper than we do, do so by all means; and it is the business of GLEANINGS, to give you all the instruction that lies in our power for so doing.

◆

IT *is* a shame to make blunders in advertisements; yet that is just what we have been doing. We quoted friend Lane's buckwheat at 75c. per packet instead of peck, last month; and still worse, Dr. Larchs' Italian bees at $4.00 instead of $14.00, just because we didn't see that a very little figure one had by some means dropped out.

◆

GEO. NEIGHBOR & SONS, of London, send a neat catalogue of bee-hives and fixtures, a copy of which is just at hand. They too have offered covers for hives generally, but while they charge about $2.25, ours cost only the modest sum of 30 cents and the prices of the English implements all through, are nearly in the same ratio. The only extractor they give, is the Peabody, at a price of nearly $20.00.

IF you drop a nailed frame on one of its corners, it is corners, it is either spoiled or injured; the metal cornered frames in the hives at the time we tumbled them off the shelf, were not hurt at all, although some of the combs needed quite a number of transferring clasps to enable the bees to mend them.

◆

THE *Prairie Farmer* and *Country Gentleman*, seem to have got the idea that the York State Convention gave the extractor a pretty general condemnation; yet the report contained in the Syracuse Daily *Courier* of Feb. 4th, that some kind friend sent us, does not give to us such an idea by any means. The following question and answer which we clip, it seems to us covers the whole ground:

"Q. Which is advisable, to produce box or extracted honey? A. The market should be supplied with both."

◆

MRS. TUPPER is to be pitied, as should every one be who has yielded to temptation step by step. Yet she has taken the money of our readers without giving an equivalent, long enough; and *now* at least, some provision should be made for safely returning the money that innocent parties have been sending her, and perhaps are still. The ambition to handle a business beyond our means, and to make the world think we are what we are not, is one of the sins of the age, and one that must bring sorrow and suffering. Can we not be warned in time?

◆

THERE! we can see through it all now, as plainly as can be—as the woman said when the bottom dropped out of her tub the whole trouble with the thin watery honey, was caused by not having our hives made of straw or like the—our compositors will set it up, "University Hive." There can be no doubt about it, for Mr. Muth, and Mr. Quinby, and Mr. L. C. Root, say —we can't remember just what they do say after all, but whatever it was, we feel quite sure they are right.

◆

PRESUMING you are all interested in anything pertaintaining to our kind friend Mr. Langstroth, we give the following just received from his son-in-law, Mr. Cowan:

OXFORD, O., Feb. 22d, 1876.

MR. A. I. ROOT—*Dear Sir:*—Mr. Langstroth requests me to acknowledge the receipt of money from Mr. Hastings sent him by you, and to thank you and Mr. Hastings for your kindness. Mr. L. has been very poorly this winter, being confined to his bed much of the time, and very gloomy and depressed.

Yours, very truly,
H. C. COWAN.

◆

THIS is the month for meal feeding with most of our readers; the best is rye and oats ground finely together without sifting or bolting. To get the bees started, give them some pieces of comb honey, and when they get quite busy on it, take it away and put some meal in its stead. They will learn it in a day or two, to your full satisfaction. If you have no rye and oats, common flour or even corn meal will answer. We do not think it possible for them to take too much.

◆

MR. QUINBY recommended as a remedy for the spring dwindling, that the bees be kept in the cellar until natural pollen was to be found, as many of you are well aware; the following from L. C. Root in regard to the matter is of interest. At present we hardly dare advise either way, but would be glad if those having good cellars would try keeping *a part* of them in until quite late and then report:

The following is the result of my last season's wintering. I put 121 stocks in the cellar the 11th of Nov., 1874. April 27th, 1875. I took out 120 swarms. One had been disturbed and swarmed out during first flight. I had reared several queens in Oct. and had several drone laying queens. I reduced the apiary by doubling, to 114 stocks. From the fact that the loss was so general, the result was gratifying. No loss that could not be accounted for. L. C. ROOT.

Mohawk Valley, N. Y., Feb. 22d, 1876.

# Heads of Grain,

## FROM DIFFERENT FIELDS.

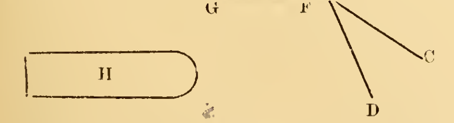
I HAVE been keeping bees only a few years, but am delighted with it. As my age and health render me unfit for the active duties of the farm, bee-keeping now comes in as a beautiful employment around the house. It is brim full of real substantial pleasure, and no farmer should think of farming without having bees. They belong to the farm, and I would now no more think of being without bees than without cattle, sheep, hogs or any of the products of the farm. A few years ago when my attention was called to it as a science, (through Mr. King's little book,) I entered into it with so much enthusiasm that my neighbors were disposed to put fun at me, and often said Hersperger's wild on the bee question. If I had failed, it would have been "as they expected" and a strange bit of folly in me. But I succeeded. Last year from 12 stocks I took 1,000 lbs. of beautiful box honey—sold it at 25c. per lb.—and doubled my stocks. This year (a poor season,) I have sold $200.00 worth of honey, and increased to 35 stocks, *and now I am a hero!* They all wonder at my success, and talk of it on all occasions. In this climate, I think we need have little care about wintering. Some protection around the hives, and the work is done. If they have plenty of stores they will go through all right. True, I have blankets on mine, or most of them, but I believe they will do well without them. I have yet to lose the first from out door wintering. I tried a few in my cellar. It was too damp. They did not do well. H. C. HERSPERGER.

Keene, Ky., Dec. 15, 1875.

I have about 50 colonies of bees, some fine as one could wish for. The past season was one to be remembered in this part of Iowa. Most of what few bees were left here came through in poor condition, and to help matters on we had a cold, wet, backward spring; and when it did set in warm and flowers bloomed, we had continued rain for days and even weeks at a time, until I gave up in despair. I continued to feed my best hives for they were pure, although weak in numbers and stores. There came a change in July, and then came the swarming fever; and such a time! *Just think;* 4 men and 16 boys could not hive them fast enough. OLIVER S. CLARK.

Albia, Iowa, Feb. 4th, 1876.

Very likely we shall have some lively times with this same swarming mania, if we attempt to raise comb honey; and *our* safeguard to prevent the loss of bees and queens when they are of the most value, would be to clip the queens' wings. As even with this precaution we are liable to have young queens get out with a swarm, it may be well to provide appliances for rapid work. In addition to the various swarming poles that have been given, our friend, Rev. J. Van Eaton, of York, N. Y., sends the following. The idea seems to be to take advantage of the disposition bees have to cluster where several limbs join together, or to get into any obscure angle or cavity:



Let A B represent a strip from a straight-grained pine board, long enough to reach as high as your swarms usually cluster, and strong enough to take down one of the heaviest. C, G, D, are $\frac{1}{2}$ inch boards something in the shape of H and about 10 inches wide; G, which is to be nailed to the pole, is about 2 feet long; the rest, a foot or a little more. At F, a bundle of hay enclosed in a black cloth bag, or something else resembling a cluster of bees, is fastened, by tacking it on the boards. To use it, push B over the limb on which they have commenced to cluster—first bumping them off with the end B—and push the pole up until the limb is secure between B and C; now push A up until it rests on the ground in such a way as to hold it all secure, where it may be left until the bees are all safely clustered. Any timid person can now take it down and lay it in front of the hive that has been previously put in readiness for them. If it is kept fixed up in a conspicuous place during the proper season, they *may* light directly on it. "Don't say nothin'" if they don't.

This month's GLEANINGS received. You say your bees wouldn't work on meal Jan. 18th, while mine worked on it in Dec., and had you seen them, you would have thought all the bees in the apiary were in that one box of meal. It was really amusing to have passers-by stop and look, then ask, "Bees swarming? What makes them so white? New kind ain't they?" I explain to them that they are working on rye flour, when of course they ask to know all about it. If they make honey of it? If I mix it with honey? and a thousand and one questions of about the same kind. Bees all in the cellar now, with everything dry and comfortable. J. M. B.

Columbus, Ind., Feb. 3d, 1876.

I left my home on Pt. Pelee Island, Lake Erie, in December last, coming here with my family to spend the winter with old friends and relatives, leaving my bees (38 colonies) on the island upon their summer stands, without any one to look after or take care of them, and will probably not see them until next April. As they came through the severe weather of last winter with but comparatively small loss, though exposed to the west winds directly off the lake, without even the protection of a fence to break the winds, I am hoping they may get through this mild winter weather.

A number of my friends here in Ky. kept bees in movable comb hives some years ago, but I find that most of them have died off, and the few remaining ones are very much neglected. But very little interest is taken in the subject by any one.

I think GLEANINGS well worth a dollar, though we may never adopt all your *new fangled* notions—at least not until you have thoroughly tested them for more than one season—for instance, that new hive made of $\frac{1}{4}$ inch strips.

I read last night a long account of Mrs. Ellen S. Tupper's great troubles, and could scarcely believe my eyes when reading the head-lines of the article. As it is, I can not believe but that she is more to be pitied than blamed. Although I never saw her, I felt almost as if she were a personal friend—as I do of most of our bee friends—and was made quite sad. THADDEUS SMITH.

Midway, Ky., Feb. 4th, 1876.

When we first advised an extractor weighing only 14 lbs., it was thought too light to do the work; but actual use soon showed that it was far more efficient than those revolving such a weight of metal. We think those who have studied the effect of the sun and storms on wood-work, will agree that $\frac{1}{4}$ inch will outlast thicker stuff, especially when it is "ironed off" as completely as are the exposed portions of the Universal Hive. They cost us considerably more than the Simplicty hives of the $\frac{7}{8}$ lumber, but we shall benefit ourselves by having only one hive to make and keep in stock, instead of six; and shall benefit our customers by giving them a much easier hive to handle, besides supplying a whole neighborhood with hives precisely alike, no matter what the frame used. Are there any among our lady readers whose arms have ached from lifting covers that weigh from 10 to 25 lbs.? Well, take courage, for the cover to the U. hive weighs barely *two* lbs., and is framed in galvanized iron at that. A case for 27 section boxes weighs the same. These cases and covers are an exact fit for the Simplicity hive, or in fact for any Langstroth hive.

Much has been said in GLEANINGS about section boxes. I used them last season, and was obliged to put in thin pieces of board to prevent their running the combs together. Please give me your preventive.

J. I. JOHNSON, Palmyra, N. Y.

To tell the truth we have never used the section boxes; but from what we have seen of comb building, and from the way in which the bees built them in the small frames in Mich. last fall, we hardly think they will leave the top bars when they are made to start in the middle on the foundation guides. We would be very much pleased to hear from our Mich. friends in the matter; do the bees trouble *you* by connecting the frames? and what guides do you use? if bits of comb, how large? and do you ever find it necessary to give them very large guides to *make* them put just one comb in each frame? You see we are going to turn about, and ask as many questions of you as you do of us. We *can* make a sure thing of it by giving them a sheet of foundation that fills the whole section box, if they wont go straight otherwise.

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Opened two hives this week, found eggs, larvæ and sealed brood. Bees carry in flour nearly every day.

J. B. RAPP, Owensville, O., Jan. 6th, 1876.

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I am a little boy of 15. I have bees and don't quite understand how to treat them to keep them from moths. Last spring I had 17 hives in April, and before the 12th of July I had only 3 left. When the moths came to the hives the bees left honey and all. ALONZO WALKER.

Enterprise, Ontario, Canada, Jan. 18, 1876.

Now you certainly must have made some mistake, young friend, in laying the blame to the moth-miller, for they hardly commence work before June or July. We think your bees had only the usual "spring dwindling" that seems to have made so much trouble for the past few years, which even yet, remains unaccounted for.

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We have seven colonies; some are in hives with movable frames; size about 12x12 inches, which we think too large, as one broke down last summer and drowned a whole colony before we knew it. MRS. EBERMAN.

Merrimec Point, Ill.. Jan. 31, 1876.

We think the hive mentioned must have been of some dark color, or that it must have stood directly in the sun; possibly both. We once had a hive painted nearly black; the sun melted the combs down as you mention, but after painting it over white, we had no more such trouble. Hives should always be shaded in the hottest part of the summer, and we know of nothing that does it so nicely, and just at the proper time, as grape vines. When the combs are first built, some care may be needed with a frame 12 inches deep, but after the first season they seldom break.

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Get hammer and nails and fasten that shelf, and don't be so awkward next time you wish to get your bees out. If one can only keep cool, he will never have much trouble with bees, or anything else. But unfortunately we will "boil over" once in a while. W. F. COATS.

Columbus, Ind.

If we nail the shelves fast we can not well put them in the loft in the summer. We are making huge resolves to do better every day, and we think we really are making a *little* progress.

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I must tell you about one of my hives which managed things a little contrary to bee gospel. In examining them some time in the latter part of May or first of June, I drew out a card of comb with two queens on it, both large nice yellow ones. Of course I took considerable interest in that hive for the balance of the season. The two queens staid in that hive until some time in August when I divided the bees, giving each a queen. I have them both yet, one as good as the other, apparently. Now that hive was as good as any two others in the yard. What I want to know is how to manage to get two queens in one swarm, and have them carry on business as those two did, whenever one chooses.

I have found a man out here who is positive he has discovered a sure process of wintering and springing bees. It is burying or trenching without any ventilation whatever, more than the earth gives them. He says he has tried it for four years, and that they come out as strong and free from disease as when they are put in. Quite a number of his neighbors are trying his process this winter. I shall watch and see how they succeed. The bees are to be buried out of reach of frost. JAMES SCOTT.

Epworth, Iowa.

We have frequently found two queens in the same hive as you mention: but they are only exceptions to the general rule, if we except mother and daughter working side by side. This is so common that we are inclined to call it the usual way when a queen is to be renewed in a hive. As this same feature has caused much trouble in introducing queens, it is always best to examine the hive, if we have a queen of much value, before releasing her, to see if there is still an extra one at liberty. We have frequently put queens hatched in the lamp nursery, into hives containing a queen; but they are generally killed sooner or later, though sometimes not until they are several days old. Burying bees is nothing new, and is perhaps the very safest way, if your soil is perfectly dry, such as a sandy hillside; as good cellars amount to nearly the same thing, and are much less trouble, they are in more general use. In wet clay soil, it is quite difficult to make cellars below ground that are sufficiently dry.

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I sent my comb honey last fall, to a commission merchant in N. Y. It was in the Geo. T. Wheeler boxes, with a glass each side of the comb. They weighed about two lbs., net, and two and a half gross. They sold at 30 cents, gross, and the cash came promptly. It netted me between 26 and 27 cents gross. My extracted I sold at home for 20 cents. I hope you will be able to report about the saws in the next number of GLEANINGS, as I don't like to wait longer than that, before getting one. E. KIMPTON.

Cedar Creek, N. J., Feb. 7th, 1876.

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As you hit my view so exactly on feeding bees in winter, I want to congratulate you on the same. I have fed weak colonies in winter for the last four years, with good success, on stick candy, and I'll tell you what I think is a little better; candied honey if you have it.

By the by, did you ever hear of carving rations for bees? That is just what I am doing. Do you remember I told you last autumn my bees were short of stores? I dare not tell you what a lot of candy I bought and fed them this winter.

Some time in January, I received a card from Charles Muth, Cincinnati, asking a sample of my honey, which he pronounced good clover, offering me 15c. per lb., delivered. Now, would you not think me a little insane to ship my honey to Cincinnati, pay freight on same, throw in one of your good oak barrels—one I bought of you—and take it ten miles (mud only one foot deep,) to the station? That was too much work for me. I am retailing what candy I have left, in my store at 25c., and have opened a barrel of honey which is the nicest I ever saw, and solid as a cheese. I take my long carving knife and give a good slice to each one that needs it. I think it better than candy.

The last heavy rains we had, made my cellar too damp for bees. I took them out. They have had a good fly, and are in a much better condition than I expected to find them. WM. PAYNE.

Spencer, O. Feb. 8th, 1875.

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Have kept bees three seasons. Last winter all came through safely—31 colonies. Have received over $100 for bees, and $200 for honey, and have now in winter quarters, (in cellar) in fine condition, 37 colonies.

Polo, Ills., Feb. 5, 1876. J. C. ALLABEN.

MR. EDITOR:—I have 15 hives, and a neighbor has about as many. These are all the bees I know of in this locality. During the winter of '73—74 nine-tenths of bee-keeping neighbors lost all they had from dysentery. One man lost 47 hives out of 50, another all but 6 out of nearly a hundred. I winter in cellar. Remove the old honey board and give a clean one, with little upward ventilation. Bees so quiet I sometimes lift the honey board to see whether they are dead or alive. I have never made bee-keeping pay, and never expect to in this cold and frosty region, I cannot, therefore, afford to purchase expensive apparatus, so I make what I need. An old thin-bladed case-knife with the shank drawn out, and bent the point slightly curved and handle attached, makes a tolerable honey knife, cost 5cts. I have made a small bellows smoker which works finely. Cotton rags or paper saturated in a solution of saltpetre and dried, burn slowly, without blaze, and emit a great amount of smoke. My extractor is to cost, for tin receptacle, (for one frame) 75cts., and half a day's labor in shop. I do not propose to use it much except to strain half-filled boxes and light hives in the fall. I have constructed three non-swarmin. hives for experiment, each capable of holding 24 boxes 6X7 inches. It is a hive within a hive: the outer hive being 22½ inches long, 20 inches wide and 18 inches deep. The inner hive is 22½ inches long, 11½ wide, (inside measure) 11½ deep, and contains 8 frames 19½x11 inches. The side boards and honey board of the inner hive are to be removed when the boxes are added. When the boxes are removed in the fall, I propose to replace the side and honey boards and fill the space previously occupied by the boxes with fine hay and winter out of doors.

I would like to ask many questions, but as you say you can not go over the same ground again, I will not trouble you with them. Would it not be well to print a *Table of Contents* of the preceding volumes to send to subscribers when desired? It would help you to dispose of your back numbers.

J. H. P., Franklin, N. Y.

We have always on hand, indexes to almost every point that has been touched in our former volumes, and will cheerfully mail them on application. Where questions have a bearing on subjects that have been heretofore treated at length, we are always prepared to point out to you where it may be found, either in our own, or any of the other journals.

We have used the rags prepared in the manner described, with much satisfaction, but they are rather expensive, compared with rotten wood.

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Bee hive came to hand all O, K. Twelve days on the road. Freight $1.75. Wife says how the bees will laugh when they get up into those nice little frames. Would not inch strips of the comb guide answer every purpose in the little frames? I think a hive should open at the side to facilitate the handling of bees.

Geo. Perry, Peru, Ills., Jan. 21st, '76.

We suppose inch strips will answer nearly as well, so far as straight combs are concerned, but it certainly would be a greater saving of time in comb building, if we could fill the frame entire. Our improvement in the section boxes is especially for the purpose of using a sheet full size, or nearly so. To do this, we must of course have them very thin and light. After you have used a number of side opening hives for a few years, we think you will decide with us, that they do *not* facilitate the handling of bees.

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Is 1½ inch wide enough for top bars of frames? I use the American hive.

W. H. Frederick, Maximo, O.

If you use closed top bars 1½ inches will do very well, but if you have very nice straight combs, we think a trifle less preferable, say 1 and 15-32. We think you will find the closed top bars a great nuisance when you have many hives to handle; they are almost entirely out of use now, in apiaries of any size.

On page 148, Dec. Gleanings, I observe my article without the desired signature. This was because of haste, it was not intentionally omitted.

You ask, "Would you advise one who uses a Gallup frame to constantly whirl the extra metal and machinery required to contain a Standard, if he should never use the latter?" With my limited experience with different sized frames, yes, because I should think the difference in the power required in emptying different sized frames, would lie in the different weights of combs rather than metal. Or, 2 Standard frames of 6 lbs. each will require about the same power as 2 Gallup frames of the same weight in the same machine.

Again, you ask, "Why do doctors use a small gig instead of a buggy for two?" Waterbury has a population of 16,000, and I believe some 12 doctors, and I think they all run buggies, and some of them very large. Dr. Platt's and Dr. North's remarkably so. None of your little narrow-contracted, tucked-up, close communion concerns; but generous, hospitable affairs, a credit to the hearts of their owners, whom you may often see with a friend beside them.

I have long thought of trying my extractor with weights instead of gearing and crank, (my gearing is brass, cut in the best manner and finished bright,) by putting a pair of small grooved pulleys on top of the shaft, and using two weights, one much heavier than the other. The heavier weight is designed to turn the machinery and at the same time draw up the small weight. When the small weight is up, take weight from the heavy side and put on the light side which will turn the machine in the opposite direction; and so on continuously.

You talk of "that unfortunate weakness." Did you ever know a Yankee who had not his full share of that same weakness? Something new every day, God bless him. It is this weakness which drives him all over the world starting sawmills, gristmills, cotton and woolen mills, horse-railroads, &c., &c., and scattering blessings broadcast wherever he goes. Johnathan is an institution and long may he wave.

Wm. H. Kirk.

Waterbury, Conn., Dec. 18, 1875.

We fear you will have to work a season or two with something like a hundred hives before you get at the real state of affairs. It is not only the extra metal, but it is having this weight so much farther from the centre, and using a machine larger and more unwieldy than is needed, that makes the difference in labor required. Your suggestion of weights is an evidence that you do not see just what is needed; the power required to throw the honey out is very insignificant, compared with that needed to start the machine quickly, and stop it suddenly. When we are working rapidly the whole is to be brought up to the required speed in little more than a second of time, and when the honey is out, we stop it with a suddenness, that would demolish with a crash, any machine having *heavy* inside works, were it stopped with equal abruptness; hence, to "get along" fast, we must dispense with every ounce of useless material. For one to use a Quinby extractor, having only Gallup frames in his apiary, would be like sending two men with a bushel basket, to carry a pint of strawberries.

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The winter thus far has been very warm. I have had to cool off my bees in the bee room by the use of ice; I put ice in a box outside, and let the cold air pass in through the lower ventilator and out at the upper one. They got too excited and I found that way very effectual.

Frank M. Chapman. Morrison, Ill., Feb. 5. 1876.

Using ice as you suggest would without doubt answer the purpose, but is there not an easier way? *Good* cellars will answer the purpose without the necessity of any such "fussing" in the winter—we can not well term it otherwise—and the house apiary may be less trouble than either, though we think it may be difficult to construct them so as to give a temperature as perfectly even as that of a large cellar. Perhaps we may work on the idea of an outside cellar given on page 57.

Would bees deposit poisoned honey in their cells? Honey that would kill the brood and queens? A neighbor of mine mixed cobalt with honey to kill the tobacco flies and I think my bees collected it, for several of my colonies died with 40 to 50 lbs. of stores all clean and nice. After one died I bought another and put in the same hive and now they are all dead. My bees commenced gathering pollen on New Year's day and worked for one week. It appears they did not all suffer alike but all have thinned down more or less. WILLIAM NOLAND.
Saundersville, Tenn., Jan. 26, 1876.

It seems quite probable that in your case, it was the honey and cobalt that killed the bees; but it *may* be nothing more than a feature of the modern bee disease. If they died shortly after gathering the pollen you mention, we should incline to the latter idea; but if it was during warm weather we should think it the poison. If it is while rearing brood during cold weather that this bee disease makes its appearance—in the early spring for instance—we shall have ample opportunity to test it this season, and we know of no better remedy if such is the case, than to keep them in dry cellars as recommended by L. C. Root in the *Am. Agriculturist*, until we have settled fine weather.

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I started last spring with 15 weak swarms, two of them in box hives, which I transferred to movable comb frame hives, increased them to 25, Italianized them, and took 1050 lbs. extracted honey. This honey was all taken during the two last weeks of Aug. The balance of the season produced very little honey. Am wintering my bees in cellar; doing well so far.
W. P. IRISH, Norton, O., Jan. 26th, 1876.

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I began the season with two fair colonies; increased so as to go into winter quarters with nine, though I fear some are rather weak. Had made during the season about 40 good new cards of comb, Langstroth size, but took only about 30 lbs. extracted honey and 10 lbs. comb honey. Hope to do better next season.
J. H. CRIDDLE, Nashville, Tenn. Dec. 20, '75.

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Will you have the kindness to inform me as to best method of Italianizing 80 colonies native bees? I have just received a colony from Dadant with imported queen and wish to have all my bees pure Italians from her. Please give the information as soon as possible. My queens are all laying now quite freely. We think "Our Homes" should be read by every family in the land. WM. W. WARE.
Bayou Goula, La. Dec. 11, 1875.

By far the best method in our opinion would be to use a lamp nursery as described on page 87, Vol. III. The next best way would be to raise queen cells and then insert each one in a comb of hatching brood as given at length on page 75, Vol. III. As we have nothing to add further than what was given at length in those two papers, we should hardly be doing our regular subscribers justice to go over the whole ground again.

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I have seven Langstroth hives of the old pattern. Honey-board with holes in top for box honey. Would you advise me to use them or get some other kind of hive? What would it cost me to get one of your Standard hives delivered here? I have had no bees for several years until this winter. I have bought some in common box hives and calculate to transfer them when the time comes to do so, and as I have never done anything of the kind nor seen it done, I don't expect to have much fun during the operation. How many frames should go in a hive 13¾ inches in width. I am not going into the bee business on a large scale; I only want a few stands to employ my mind. I have nothing to do and am getting too old to do that. BAKER SPENCE.
Terre Haute, Ind., Dec. 27, 1875.

Use the hives you have, but in place of the honey board use a quilt, and if you wish box honey, use the cases of section boxes such as we have described; 14¼ inches is the right amount of space for 10 frames; you will find it difficult to use more than 9 in the one you mention.

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I hardly dare tell you about my bees lest you put me in the paper; but they did well last season, giving 1400 lbs. (half comb) from 16 hives, and 8 hives increase. The 24 are wintering well; most of them in cellar. MRS. A. L. GOULD.
Ridgeville, Ill., Jan. 26, 1876.

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I have just been looking over my bees to-day; find them in splendid condition. One thing, I noticed that all the hives that had young queens from my imported one had brood in advanced stages—some nearly ready to hatch—and they were not the strongest hives either. As strong colonies early in the season are the profitable ones here, I think this a point in their favor. E. W. HALE.
Wirt C. H., West Va., Jan. 28, 1876.

If your other young queens of the same age are not also rearing brood at the same rate, it is rather strong evidence that they rear more brood in the winter, but are we really sure this is a desirable quality? This winter's test will probably go far to determine the matter.

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Have my bees in an outside cellar, the ground being too low and wet for one under ground; lathed and plastered; 6 feet in the clear inside; banked up to top of wall all around except opening for door, and has 12 inches of dry soil on the top. The bottom is cemented with water lime, with 6½ inch tiling running from bottom of cellar 30 feet through the ground for air; chimney at the other end of the room and same sized opening at the bottom to let air out; these have been open all the time, the mercury ranging from 36° to 43°, while outside the variation has been from 10° below to 65° above. No fire in room above! Think that is about as even a temperature as can be secured above ground. Bees are doing nicely,
C. KENDIG, Naperville, Ill., Jan. 7, 1876.

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The past season was here the poorest we have had for many years. Took about 1 ton of extracted honey from 40 stocks in June, after which I increased the same to about 85. I had to feed about three barrels of sugar to get my 100 stocks prepared for winter. It affords me pleasure to be able to add my humble testimony to the growing worth of GLEANINGS.
J. S. WOODBURN, Dickinson, Pa., Dec. 22, '75.

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My bees will be in condition to divide in 10 days. They are gathering, storing, evaporating and capping honey at this time. "How is that for high?" Have from 3 to 7 frames of brood, plenty pollen, &c. I will have to extract next week to give queen room. All this is ahead of my most sanguine expectations. "The willows in winter and the sage in summer," this is my watchword. And now I say: Ho! for 500 lbs. per hive in '76, or 100,000 lbs. from my 200 colonies. This may seem to you like "air castles," but I will show you. AMATEUR.
Anaheim, Cal., Jan. 24, 1876.

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Can I get the recipe for making those honey cakes Mr. Muth sent you? What is the price per jar, of Mr. Long's Cal. honey? What is the price and dimensions of the foot power buzz saw you are getting?
GEO. PERRY, Peru, Ills.

The honey cakes, we think are made by the bakers or confectioners; if Mr. Muth will be so obliging, will he tell us something about how they are made?

We think Mr. Long sells the California honey, at $12.00 per doz. for 3 lb. jars. You had better send for the circulars published by all the parties mentioned.

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Please send me one pound more of alsike clover.
MILES E. LOEHR, Palestine, Ills., Feb. 3d, 1876.

We cheerfully send the seed friend L., and trust all mistakes or misunderstandings between ourselves and readers, may be as pleasantly and easily arranged.

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Had one colony last spring—now five in L. hives in cellar. D. G. WEBSTER,
Parks Corners, Ills., Dec. 22d, '75.

Very well done, if all were the increase from the one.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," and have a friendly chat and feel "at home."]

## CHAPTER XI.

For where envying and strife is, there is confusion and every evil work.—James, 3: 16.

IT may be that some of you who have known me long, and in fact I do not know but that those who have only known me for a short time, have observed a strong ambition to —I really do not know how better to express the exact idea. than to adopt the language used in spelling schools, and say, to "get up to the head," or to "spell the school down." Now this is a very commendable trait to be sure, and what parent is there who would not be pleased to see in his child the development of a disposition to stand at the head of his department? I am talking of myself again, and I do not know how I can tell what I wish, without borrowing illustrations from real life somewhere. As I wish to severely censure some of the motives that actuate humanity, and as I do not feel at liberty to take my fellows for such illustrations, will you not excuse the frequent repetition of that little pronoun "I." Since the time I earned the silver quarter as capital with which to commence the poultry business—see page 45, Vol. II—by getting to the head the most times in the spelling class, I can look back and see that, mingled with my ambition there has always been more or less of a feeling of rejoicing at the failures of others, if they happened in the least to stand in my way; to express it fairly, a sort of inward "chuckling." Yes, I do feel ashamed to own that such an element exists in my nature, and perhaps the very best way to get it out, is to confess. I do not mean to say that I would at any time have done anything to bring their failures, but that when they had not studied as hard as I, perhaps because they had not the same desire to "beat," I looked anxiously for the failures that I felt sure would come; and when they *did* happen to have a good lesson, I did not rejoice in their progress as an unselfish person would. If I had no personal interest in the matter, I of course was always glad and even anxious to see progress, for among my other faults, there seems to have been little of the "dog in the manger" spirit; the only unpardonable sin—inwardly, for I was ashamed to have it known—was to have some fellow-being attempt to compete for the prize that I had determined should be all my own. Where competition was open to all, of course others had the same right as I, and if any could in a fair and honorable way outstrip me, I certainly ought pleasantly to have given way, for I pushed ahead of others, if I could, without scruple. As I became older I saw the inconsistency of this, but I am afraid that my labors were directed more to keeping the deformity out of sight, than toward cultivating a real love toward my fellows,—by the way, this chapter *does* begin to look a little at variance with the last one; if that one was not ingenuous I will try to be so in this. During the past week, it has, for almost the first time begun to dawn on my mind just how far that same feeling still hangs about my life, and I verily believe it hurts *me* more than it does any body else.

There are three other Bee Journals in our country, and if any one should ask me if I were anxious that all these should prosper, of course I would not do else than say yes, for I should be ashamed to answer otherwise, but a voice keeps saying "Is this *really* the truth? If it is, why do you, when each new Journal comes out, clearly showing that its owners have spent much care, pains and anxious solicitude in its getting up, why do you read it with such a critical eye? Why do you, instead of feeling genuine sorrow at something you happen to have had an opportunity of knowing to be an error, come pretty near feeling that old wicked disposition to "chuckle" over it? Why not take a much more manly way, and if you, without doubt, know the editor to have made a mistake, write and *tell* him in the same friendly way that you would an own brother if he were making a mistake in building a house, or in any other business that did not concern you?" Of late this voice has been saying: "These other Journals are all very kind and pleasant to you, but even suppose they were not, have you not been discoursing on the beauties of returning good for evil? Have you no faith in the promise given those who 'cast their bread upon the waters?' If you should speak well of your cotemporaries, and lend a helping hand at every opportunity, and from the bottom of your heart rejoice at their prosperity, would it injure your own paper in the least? Nay, further; if after you have strained every faculty to its utmost, you should find that one or all of them were more in public favor than your own, should you not bow in humble and pleasant acquiescence to the voice of the people, and be content to do all the good you can in your own way and thankful that you have even *such* a place in this busy mass of human brotherhood?"

Now my friends have any one of *you* such feelings toward those who are in the same line of business as your own? If you keep a store and the children get a habit of feeling a little jealousy toward your neighbor's children whose father is a little more—or it may be a little less—prosperous in the same line of business do you always take pains to discourage such a feeling at once? And do we *always*, all of us, discourage every word that comes up that would foster a spirit of rivalry or jealousy? A few days ago a lady directly after she had got home from church, began to say that she thought Mr. A. far ahead of Mr. B., as a minister. Not long after a similar remark was made by one of our children, and to impress on their minds the injustice of such a way of speaking, I asked how they would feel should they overhear papa or mamma, making a remark to the effect that they liked one of their children much better than the other?

"But we are both your children," said they.

And are we not to feel that our fellow-beings are all brothers and sisters, and should not be compared with each other in a critical way? How would you feel should the person you have been speaking slightingly of, happen around a corner unexpectedly? How pained they must feel to think they had been so unfortunate as to have earned your poor opinion. Would it not be so much better, if we could all avoid saying anything of a person that we would hesitate to say in his presence?

A customer handed me a watch a few days ago with the remark that it had been at my neighbor's shop a number of times, but that he did it no good. I took the watch in silence, but there at once arose a feeling that I would show him that *we* did our work promptly and well; and that he should always come to us in the first place. Now this was all very well, if it was true, but right before me lay more than one watch that had been returned under similar circumstances, and that only awaited my personal attention. While I was making the examination he remarked:

"I guess Mr. —— does not know much about watches any way, does he?"

I had made up my mind that I would not say anything against my neighbor, oh, no! but there I sat with a soft smile on my face, of superior wisdom, while he went on to make quite frankly the usual remarks to the effect that he thought such men should never be trusted with time-pieces, etc., until I began to feel ashamed of my cowardly and ungenerous position. I told him the difficulty was a simple one, and that I knew Mr. —— would do it just as well, and probably at less expense than I could, as the watch was one he had sold. I then took up my own work, with a feeling that I had stopped hurtful gossip, and had spoken of my neighbor as I would be pleased to have him speak of me. Silence at such a time, is frequently more damaging to a neighbor, than almost any words we could utter.

I would by no means be understood as taking the position that we should forbear to speak or act, when we see a neighbor trespassing against his fellows, or the laws of our land. For instance, suppose you have a neighbor who is making counterfeit money; it is clearly a duty you owe your fellow men, and one that it would be cowardly to evade, to have him speedily stopped; and if it can not be done otherwise, it must be done by the strong arm of the law, even should you bring unutterable grief and sorrow on his innocent wife and children. Much judgement and wisdom are required to do work of this nature in the kindest manner possible to all parties concerned; and even the poor culprit should be treated with all the kindness consistent with a firm discharge of duty. If you should be able to induce him by appeals to his better self to go back to the safe paths of duty—and such things have been done—you would perhaps be the means of preventing an inestimable amount of suffering. And in such an event, you certainly would not think of exposing him after he had ceased from wronging his fellows. But suppose he will not be honest; in that case, you may do a great wrong if you fail to do your duty promptly; for it would very likely be a mistaken kindness, even to *himself* and his own family.

I fear it has been a mistaken kindness to poor Mrs. Tupper, that prompted the Bee-Journals, our own among the number, to hesitate, when we knew that she was defrauding the bee-keepers of our land. For two or three years we have been in possession of facts that would have effectually prevented any one from sending her more money; but as she earnestly promised to pay all up, and as she seemed to be struggling alone and in trouble, we, I can but think unwisely, kept the matter quiet. Had she been treated with the same severity that one of the other sex would have been under the same circumstances, it might have saved the money of unsuspecting persons, and have stopped her before she came to her present awful situation. Even if she had been insane as has been intimated, there was no reason why she should not have been truthfully shown up before the people.

Before closing this chapter I would revert to another way in which envy and the like passions sometimes show themselves. Has a merchant any right to sell his goods at a price that will not pay expenses, if he chooses? That is, can he do this honestly if the actuating motive is to draw custom from his neighbors? before you reply be sure that no selfish motive influences you. Put yourself squarely in the place of one who has but an humble stock, and is struggling hard to get out of debt; nay, suppose you are that one, and that you have been forced to acknowledge yourself not as sharp and keen in traffic as your more prosperous opponent; that he with his surplus capital could weather a storm that would wreck your humble craft—and thousands have been in just such a place—now what do you think of the one who has enough and to spare, and would purposely crush a fellow being? May God forbid that we, any of us, should ever by prosperity or any other means, become so hardened as to forget that true happiness in this world, is found not in the money we make, but in the good use we make of the talents He has given us; and in rejoicing at the prosperity of others as well as ourselves.

## CHAPTER XII.

### Order is Heaven's first law.

"Papa! will you please come and look at the barn?"

What in the world *can* the boy wish me to come and look at the barn for, was my mental ejaculation as I walked toward it; and by the way I think I will mention to you confidentially that that barn was getting to be a spot to be avoided rather than one about which fond associations might hover. You see Mrs. R., petitioned for a barn some year or two ago, principally because she would then have some place to put the various traps that lumbered up the woodshed, and which I always objected to having burned up or destroyed. Well, the barn was a luxury indeed, and it not only answered as a place for the children to drag in all their treasures, but was also very convenient for storing away discarded beehives that cost too much money to be thrown away. And when we moved the bees to the swamp, the squares of wire cloth were rather hurriedly piled into the barn, and the Quinby honey boxes were also put into the barn. And those great big "upper stories" were put into the barn, as also were discarded quilts, part of a bundle of lath that had a fashion of always getting one's feet tangled up, part of a bundle of shingles, some tin division boards, honey barrels that always rolled onto your toes, glass sash that belonged in the forcing house "upon a time," one-horse wagon, sleigh, some heavy iron wire that seemed to take a perverse delight in conspiring with aforesaid lath when one tried to think, and cultivate patience; also a box of nice frames of worker comb, from which the cover had tumbled leaving the mice at liberty to occupy it at pleasure. Spiders had built webs all over the windows, and unlucky bees had become entangled therein; an old horse blanket, an overcoat, besides other unmentionable rubbish that encumbered the floor, consequent upon a hospitable invitation to a neighbor to use the barn as if it were his own, and—there! I really forgot to say that to make *more* room the thills of the wagon had been propped up at an angle that made them always bump one's head, that a blacksmith's anvil always stood in the middle of the floor for one to bump his toes against in the gloom that of late was daily growing thicker in that barn of ours. Yet it was a very nice barn, and we paid two carpenters liberally for fixing the stalls, mangers and everything just right. *I did* tell master Ernest to slick it up only a few days before, it is true; but as I was unable to see that any change had been made, when I went into it the next time, I had become rather discouraged. When questioned, he replied that "the things must all be somewhere;" and probably got over it all, much as the boy did in hoeing the corn, who reasoned that the first hill would never amount to anything if he *did* hoe it, and that the second was good enough as it was, etc.

Well, it was several days after this when my attention was called in the manner indicated, and I walked sorrowfully toward that barn. "Aladin's lamp certainly must have been here!" was my thought, as I glanced in. A bright cheerful, *clean* room met my gaze, and as sure as you live the floor was carpeted; some of the obnoxious hives were doing duty as easy chairs, the wagon and sleigh had crept into corners so close that one hardly remarked their presence; some of the "calamities" were stowed away in the loft, and some were snugly packed in large boxes that had been used for bringing sawdust; but none were destroyed. Blue-Eyes sat in her rocking chair well knowing with the rest, the huge joke they had played on "papa," and ready to see him open his eyes.

"And is it possible that you did all this?"

"Why, mama, she helped a little."

Do you know dear reader, that if I had been presented with a bran new barn entire, I should not have felt as happy as I did with this old one? For I should have feared that the new one would very soon have shared the same fate. And now, I knew that we could if we would, keep things tidy and—and pleasant to look upon. It seemed to me that I never before realized what it was to feel that "a thing of beauty is a joy forever."

For at least several weeks afterward, the barn was a place to which I was proud to lead strangers. But alas! At this moment it is *pretty* bad again, and I have just been contemplate a fresh siege

Do any of my readers want any farther hints as to how they may make those of their own family happier than they possibly could by giving them sums of money untold? And do you wonder that I have reasons for going vehemently against having a multitude of traps about your apiary, and having them clumsy, awkward and heavy at that? If you have any spare moments, or an idle, rainy day, just see what transformations you can make about your own home, and reap the rich reward that always comes from such pleasant surprises and from the consciousness of having done one's duty. I don't believe that any one likes dust or cobwebs; but how many are there who are always ready and willing to do their part—or more—in brushing them away? and in trying to make even inanimate objects look smiling and cheerful?

It soon will be spring time; and by the way, it seems like spring time in good earnest, already; the doors are wide open and the sun is shining as warm and bright on this 11th day of Feb., as if it were April or May. The grass is growing green, and one feels as if it really *were* time to be slicking up the door yard. How does your door yard look dear reader? You certainly can appreciate a neat tidy place, for I never saw a man or woman who could not. But I fear by far too many of you imagine one must necessarily be rich to have a pretty home. Is this the case? I feel sure it is not. Did you ever observe how a rich man goes to work to fix up a poor, neglected, run down place? I believe he usually has all the rubbish cleared up to commence with, and many times we are astonished to see what an improvement is made by attending to this simple matter alone.

A homestead often looks unattractive, simply because there is no visible evidence that some loving hand has been at work about it; it looks as though no one lived there, to use a common expression, and it almost seems as though nothing could compensate for this lack, not even money applied unsparingly, in the shape of hired labor. Do you say you have no time to bestow on such work yourself? Suppose you get up just one hour earlier in the morning, and employ this hour in seeing how much of a change you can make in the appearance of your front yard. I presume there are some who say this will take their time and attention from other duties; but what is the *real end* and *aim* of one's life? You *may* find that these hours or half hours before breakfast are about the happiest of your life, if you work with energy and enthusiasm, and furthermore you may make the very pleasant discovery that you are really improving the value of your possessions in dollars and cents, to such a degree that you are also doing your most profitable work. If you are unaccustomed to such work, just try it; if for nothing else, to see what a glorious smile will beam from the countenance of your wife, and possibly from the faces of your grown up daughters also. Do you know how fondly they, in after years may turn back to the recollection of that dear old homestead? and do you know how much it is within a father's power to make home a pleasant place to them? Do you know how easily that love of home is fostered and encouraged? What a pure and holy feeling it is? and how powerfully it may influence them in after life, when temptations of a more worldly nature may surround them? Well do I remember the time when I thought disregarding the opinions of the whole world, easier than to bear the thought of having those in that dear old homestead, hear that I was on the road to ruin.

When I started out with these papers, it was with an idea of trying to suggest some means of lightening the labors pertaining to kitchen and pantry, and perhaps you think I get along rather slowly; but I really *do* think we had better get the feminine portion of the household into as pleasant a mood as possible, lest they resent any interference with their particular domain, and the very best way to ingratiate ourselves, I think will be to get out doors and commence our work of reformation. Just wait a minute until I say,

## CHAPTER XIII.

### Our Homes externally.

THERE, now I am with you. You see the idea is that we are going to have just the tallest kind of fun at this work, and the whole secret of it is to get to work before we have time to back out and get discouraged.

Very likely the first trouble we shall find will be mud, or at least an absence of really good sidewalks all round the house; and as we are to be saving of the coppers we shall have to make use of some very humble materials before we get all around. And by the way, we are not trying to see who will have the *nicest* home, but who will make the *best use* of what he has already about him, without getting into debt. We can make a walk that is better than none at all, by simply laying old boards along in a string. But this is rather an awkward, and in some respects an expensive way; for very soon the sun and wet warp them into an ungainly shape, and one that is quite prolific of mischief; for the boards will roll up at each end, and soon show an aptness in swinging one's feet to one side with a suddenness that is anything but productive of good nature, if you are in a hurry. Nailing a heavy block at the place where the ends join is some better, especially if the block is well bedded in the ground, and if we have plank and can "break the joints" by making a double row, it may do very well, but I rather prefer to get some cheap scantling, cut the boards up short and nail them crosswise. Our walk from the house to the barn is made in this way; the boards used are pieces of American hives, and they give much better satisfaction now than they did as bee hives. The latter plan too, has its objections, for if a nail gets loose or broken, you are liable to make a friend stumble in a way that may be even more productive of "getting mad" than the curled up boards.

When I was in Mich.—don't you begin to think I learned an "awful lot" in Mich.?—I saw some wooden walks that pleased me very much; they were made by simply nailing strips of any cheap lumber together, in such a way that it made a continuous stick as long as desired; the boards being sawed into strips say 4 inches wide, paying no attention to length, were placed with their edges upward and nailed so as to break joints until the walk was of the desired width. For running them round the house inside the yard, even one foot might do very well; and this long plank is sufficiently pliable to admit of being brought round the house in very pretty curves. You can buy lumber for this for 1 cent per foot; and you might even use almost any kind of old rubbish, providing it had one straight edge to be placed uppermost. You who have a windmill buzz-saw can work such lumber into sidewalk stuff quite independently. One other advantage of this kind of a walk is, that no water ever stands on it in little puddles, as is the case with most walks of stone or lumber. To be sure the prettiest, as well as most durable walk, is made of broad flagging stones; but they are quite expensive unless you are so fortunate as to have the stone on your own premises.

Now I wish you to do this work nicely; for when I take a notion to call on every family that takes GLEANINGS, I shall, the very first thing when I come in sight of your homes, look about for the evidences of its having been read.

Before we leave the subject of walks, we must not omit to speak of sawdust. If there is a wet place anywhere about your house or about your hives in the apiary, a very little sawdust will prevent soiling your feet; and if you spread a thin coat of it all over the apiary where you are obliged to walk, it will add much to your comfort, to the looks of things, and aid in keeping the floor neat indoors. When it gets tramped down into the ground, which will not be the case for a long time, you can spread on a little more; and many times you can cover up untidy places with sawdust, while it would be difficult to fix them quickly otherwise. Keep a large box full with a dustpan in it, somewhere out of the rain where it will be handy, and you have no idea how much you can do with it. In the summer it is excellent to keep down grass and weeds, when placed around the entrances to the hives; if you want it to look pretty, get fresh pine sawdust, and with a piece of very coarse wire cloth, sift out the coarser particles. If the sawdust is carefully saved from your hive-making, it does very nicely, and does not decay for a long time.

We not only want a dry place to walk on, but want the ground all dry and productive inside the charmed circle that encloses "Our Home." And to do this we will get on some of those clothes that "can't be spoiled" and "at it we go" to thoroughly underdrain it all. Haven't you any tile? Well, suppose you have not; neither had I two years ago, and yet our whole ¾ acre was well underdrained, and so it is yet. One might not believe it, but our home was in such wet clay soil that the bees came near being all drowned when they first flew in the spring. I do not know that I ever enjoyed any work more, even though a great part of it was done during freezing weather in March, and we worked covered with mud. We procured some nice sharp spades, and commencing at the lowest spot in our lot, cut narrow trenches twice the depth of the spade; we then, with a spade made on purpose for the work, cut a narrow trench in the bottom, about 4 inches wide and 6 inches deep. This narrow trench was covered with pine boards cut in pieces and laid crosswise, the ends resting securely on the shoulder left of the bottom of the first trench. Instead of buying boards, I cut up dry goods boxes, after we had gathered up everything in the shape of boards or refuse rubbish that could be found about the premises; and the amount of old tin ware, crockery, etc., that was thus put forever out of sight was a decided relief to our homestead. To get the narrow channel clear and clean before it was covered, a narrow hoe was made, and the drain was made and filled up to protect it from the damaging influences of the frost, nearly as fast as made. To see how the drains worked, a barrel was sunk in the ground where several of them united, and to-day the water may be seen merrily running along on its way, as it has done for the last 10 years, whenever the soil contained a surplus of water.

In digging for our glass house, some of these pine boards were taken up, and they seemed almost as good as when first buried. The drains were about 30 inches in depth, and perhaps 30 feet apart; our garden is now in condition to work almost as soon as it stops raining, and we raise everything that can be raised on sandy soils. We don't have puddles of water standing 'round either. While doing the work, one of the interesting features was the little springs of water that would now and then spout out of the soil, showing that the water forms regular courses through clay soil, even at a depth of only 2 or 3 feet. Of course you can use tile, but I doubt if even tile does its work as perfectly as the boards.

(*Continued from page* 54.)

a sample hive, then there will be no mistake in getting them up. How do they know whether they will please the fancy of everybody. A. True, and we think it naughty in them to be so inconsiderate. 31. If all are of their minds they would order a hive, but people want to know first, or have some idea of what they are getting. Can you not have division boards in any hive so as to raise brood in abundance if you wish? A. We can, and do. 32. What is meant by open top-bars. A. Top-bars not wide enough to touch each other: usually ⅞, sometimes I inch. 33. You say you consult American Bee Journal—Clarke and Mrs. Tupper. I see it published by Thos. G. Newman. Presume the two former names are editor and editress of same. Am I right? A. We are sure friend Newman will answer this last, especially after he sees how well *we* have done. 34. I may make you a visit. Which way shall I come by rail to Medina—shortest route from Toledo? Hoping to receive a reply as soon as convenient. I remain very truly, dear sir, yours, &c.

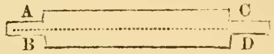
Toledo, Ohio. A. F.

A. To all who contemplate paying us a visit, we tender a most hearty welcome, and our apiary, manufactory, library of bee-literature, etc., is all at your service; but the duties we owe to our hundreds of readers, demand that you must excuse us personally. If we turn you over to one of our employes, or hand you the back volumes of GLEANINGS in answer to your questions, you really must not take it unkindly. Suppose you were to call your teacher out of his school, and ask him to give you a general idea of the science of Algebra—something you had never studied—while all his classes were waiting, how do you suppose he would feel?

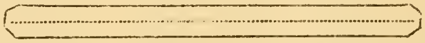
At all events we thank you friend F. for the idea of this department, and hope you will pardon our jokes, and send us lots more of questions, but please do "boil them down," that we may give *all* the benefit by answering in this department. It is of no use to enclose stamp for reply, for a postal will contain all the letter we can *possibly* write. If you send us a stamped envelope, we shall very likely write on a postal. The above looks rather unfriendly, we are aware, but will you not excuse it when we tell you that our right hand has been incapable of writing a page for months? All correspondence is done by dictation, and it is all our left hand can accomplish to do the writing for GLEANINGS with the aid of the type-writer. The right hand was disabled mainly, by continual writing; in handling bee-hives, using buzz-saws, or any kind of outdoor work, it is as good as ever unless some visitor comes along who prefers to learn bee-keeping by asking questions rather than by hard study; in such a case self-preservation demands that we refer them to GLEANINGS as containing all we know on the subject. We beg to mention here that this same self-preservation demands, aside from the teachings of the Bible, that the Sabbath be a day of rest, and that bees and all week-day duties be then laid aside.

## HOW TO MAKE QUINBY FRAMES.

FROM a ⅞ board cut off pieces exactly 11 inches long; don't be satisfied with saying "that is near enough," but cut them as exactly 11 inches as they possibly can be, and do the same with every thing about the hive. When you have your board cut up, rabbet out on both sides of both ends of the pieces, 3-16x⅝, so that the strips when ripped off, will show like the accompanying diagram.



A, B, and C, D, being the rabbets. These pieces are to be ripped off exactly 1 15-32 wide, for this is the distance from centre to centre of the frames, if we consent to have them at fixed distances. When all are cut up, set your saw gauge and saw them exactly through the middle, as shown by the dotted line; this gives you the most difficult part of the frame, the two end bars, and with a buzz saw they are very rapidly made. For top and bottom bars, simply cut your boards off exactly 18⅝, and rip off strips ⅜ thick. Before you nail them up, sort out the soundest and straightest-grained pieces for the top bars, using the others for the bottoms. For a comb guide, run your saw along the centre of the under side of the top bars, sawing in about 3-16. To make the comb-guide, cut off some pieces exactly like those used for the top bars, but before cutting the guides off, saw off on a mitre each corner of each end of the boards, in such a way that the slips will be of the shape of diagram.

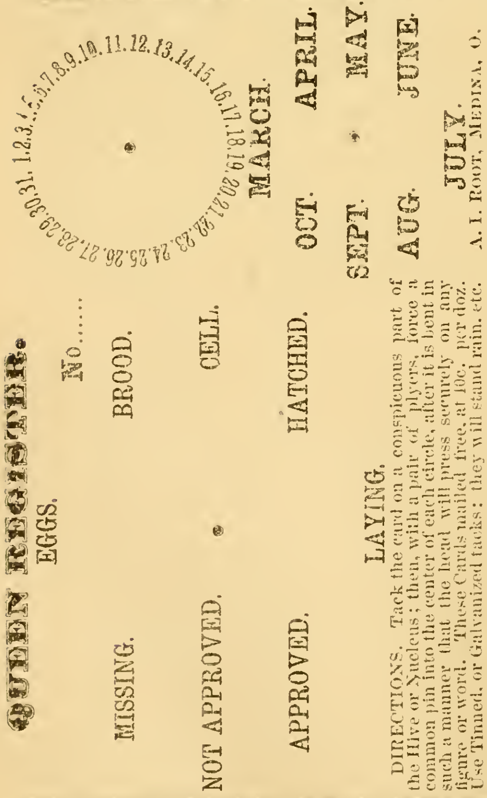


They are to be sawed so thin, that they push into the grooves in the top bars nicely; when all sawed out, pile them up and run the saw through the whole bundle on the dotted line. Now put a strip into each top bar, the side that was on the dotted line into the groove, and nail your frame with very slender 1⅛ finishing nails, three nails at each corner, two through the end bars, and one between them through the top and bottom bars. This gives you a frame that is cross-nailed at the corners, and is as light as a nailed frame well can be. The shoulders formed by the rabbets hold it square and strong, and enable you to get the pieces quickly and exactly in place. Two or three of the Universal hoops, will hold these frames from falling over, and when working with the hive you can lift off all, a part, or none of the hoops as you find convenient; removing the division board will ordinarily enable you to handle them easily, without taking any part of the hive away. If it is too slow work, we can furnish you metal cornered frames in place of them for the same hive.

holes in the lower edge of the end boards, and screw them fast to the lower hoop; then hook the rabbets over the upper hoop and screw them to the top edge of the end board; turn the screws down just enough to hold the hoops firm, and this completes the body of the hive. When the frames are in place, put on the remaining hoop and you have a nice place to tuck the quilt down; put on the cover and your hive is complete.

When the season for surplus honey arrives, you have only to raise the cover, quilt, and top hoop, and put another story on, composed of 8 hoops and 10 frames. These will cost with the end boards and rabbets, just $1.24 more, or $3.48 in all, for a complete two-story hive arranged for the extractor; and could we help ourselves without expense to all that has ever been recommended in or about beehives, we would take nothing more.

For box honey, the expense will depend on the amount of box room required; and this depends almost entirely on the locality and season. If you are where honey comes only for two or three weeks, as with us, one case of boxes will probably be all you need, but if you have a location where honey comes continuously for three months or more, so that you may need box room for 250 lbs. per hive,—see page 128, Vol. III,—you will need three or four cases to each hive. In view of this, we really do not see how we are to decide just how much should constitute a hive for box honey. Again, many place the boxes directly on the frames; and it may be that as this is so much simpler, it will be the best way, even if we do have to take them off to get at the frames. In this way we shall need four hoops and twenty seven section boxes, at an expense of only 51 cents, to convert our one story L. hive into one arranged for box honey. If we put the foundation guides in all these, 27 cents more; and if the lower hoop is made with metal bars to hold the sections from touching the frames, and to enable us to handle the whole as one box, the price reaches $1.00, to be added to the $2.25 for the two-story L. hive.



**QUEEN REGISTER.**

EGGS. No.....

MISSING. BROOD.

NOT APPROVED. CELL.

APPROVED. HATCHED.

LAYING.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31.

MARCH. APRIL. MAY. JUNE. JULY. AUG. SEPT. OCT.

A. I. ROOT, MEDINA, O.

DIRECTIONS. Tack the card on a conspicuous part of the Hive or Nucleus; then, with a pair of plyers, force a common pin into the center of each circle, after it is bent in such a manner that the head will press securely on any figure or word. These Cards mailed free, at 10c. per doz. Use Tinned, or Galvanized tacks; they will stand rain, etc.

## IMPLEMENTS FOR BEE CULTURE, ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

| | | |
|---|---|---|
| 0 | Binder, Emerson's | 50, 60, 75 |
| 4 | Boxes, section with comb guides | 02 |
| 12 | " with glass sides and fancy paper trimming for above | 15 |
| 20 | " four glass sides, 5x5x6 | 12½ |
| 4 | " without glass | 05 |
| 10 | Blocks, Iron, for frame making | 15 |
| | Barrels for Honey | $2.50 to $4,00 |
| | Balances, Spring, for suspended hive | 8,00 |
| 20 | Corners, Metal, per hundred | 1,00 |
| 25 | " " Top only | 1.25 |
| 20 | " " Bottom, gal. iron, per 100. | 75 |
| 10 | Clasps, for transferring, package of 100 | 25 |
| 0 | Cards, Queen Registering, per doz | 10 |
| 2 | Cages. " | 10 |
| 20 | Comb Foundations, Artificial bleached per lb | 1,00 |
| 2 | Cheese Cloth, for strainers, per yard | 10 |
| | Extractors | $8,50 to 10,00 |
| | " Wax | 3,50 |
| 4 | Frames with Metal Corners | 05 |
| 5 | " Sample Rabbet and Clasps | 10 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | " present " | 1,00 |
| 40 | Gearing for Extractor | 1,50 |
| 20 | Gates, Honey, for Extractors | 50 |

### HIVES AND PARTS OF HIVES.

| | | |
|---|---|---|
| | One story Langs'h without frames or bottom | $1.00 |
| | The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express | 2.25 |

The above is the hive we use and recommend in preference to everything else, and it contains every thing needed for all purposes except at the surplus season. If you decide to use the extractor you want an extra body and 10 frames —$1,25—making complete two story hive—$3.50—or, you can have 54 section boxes (without guide combs) in place of the 10 frames, at the same price. If you prefer the old style of glass boxes, we can fit the upper story with 18 having glass on four sides at 12½ cents each; this will make the hive and all cost $5,00. The glass is so easily taken out of these boxes that we shall remove and pack them separately in shipping. The same hive without the glass, will be $1,35 less. By using half of an upper story we shall have only 27 section boxes, or 9 glass boxes: making a story and a half hive complete for $3.00, and $3.87 respectively.

| | | |
|---|---|---|
| 84 | One story Q. hive without bottom or frames | 84 |
| | The same with bottom, 10 frames, division board and quilt, complete except surplus receptacles | $2,00 |
| | The same with two story, 20 frames | 3,00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

A one story complete for 13 frames of either the Standard, American, or Gallup hives, will cost $2,50, and they can also be used with any of the surplus arrangements mentioned; also, as they are all deeper than the Langstroth frame, a single story can be used with fewer frames, and sections or boxes at the side of the frames. As an illustration; we can take four frames out of the one story Quinby hive, and put in their place 24 section boxes, or we can remove three frames only, and put in six glass boxes, for 6 sections occupy precisely the space of 1 frame. A one story Q. hive, with 6 frames and 24 sections, only costs $2,00; with 7 frames and 6 glass boxes, $2,60.

| | | |
|---|---|---|
| 0 | Knives, Honey | 1,00 |
| 0 | Labels, Honey per 1000 | 3.25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp Nursery | 5.00 |
| 0 | Larvæ, for queen rearing | 25 |
| 0 | Microscope, Compound | 3,50 |
| 0 | Medley of Bee-Keepers' Photo | 1.00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | " " Double lens | 1.00 |
| 0 | Photo of House Apiary | 25 |
| 66 | Quilts | 25 |
| 2 | Rabbets, Metal per foot | 02 |
| 0 | Scissors, for clipping queen's wings | 40 |
| 15 | Seed, Alsike Clover, per lb | 35 |
| 20 | " Summer Rape " | 15 |
| 0 | " Chinese Mustard, per oz | 25 |
| 10 | Smoker | 1.50 |
| 2 | Tacks, Galvanized | 10 |
| 3 | Thermometers | 40 |
| 0 | Vails, Bee | 75 |
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| | " " " Queen Cages | 15 |

# COLONIES.

We are wintering 80 Imported Queens in our apiary and we will offer about half of them, to be delivered in spring,

## In full colonies as usual.

The reader must bear in mind that we are the only

## Successful Importers of bees in America.

We will sell at the following **reduced** prices:

| | |
|---|---|
| Colony with Imported Queen | $18,00 |
| " " Home bred tested Queen | 14,00 |

Queens all raised in 1875.

The hives are all new, well made and well painted, and combs straight.

Safe arrival guaranteed.

CH. DADANT & SON,
Hamilton, Hancock Co., Ills.

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# BOX HIVES.

### Containing Pure Italian Bees.

BOX HIVES of 2,000 cubic inches capacity containing straight combs (built on guides) and Tested Queens not over 1 year old, delivered at the nearest Express office in Nov. at $8.00; or the following April at $10.00.

Four Dollars must accompany each order. California, Mo., is my nearest Money Order office.

E. DIEFENDORF.
2t84 Clarksburg, Maniteau Co. Mo.

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# PURE ITALIAN QUEENS

### FOR 1876.

I have on hand 100 Italian queens, raised in May and June last. They were propagated in populous colonies, are pure and prolific. Price $5.00 each. I will pay express charges and guarantee safe arrival.

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# "VINEYARD APIARY."

### TESTED QUEENS—

### —A SPECIALTY.

| | | |
|---|---|---|
| One Queen | $5.00 | Reared in full colonies. |
| Two Queens | 9.00 | |
| Three " | 12.00 | |

Or sent in full colonies at $15.06 each. Addres
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1tp L. C. ROOT, Mohawk, N. Y.

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# Columbia Apiary.

### Queens from Imported Mothers for 1876.

We will send Queens the coming season as follows:

| | |
|---|---|
| One tested qeeen from Imported Mother | $4,00 |
| Two " " " " " | 7,00 |
| Three " " " " " | 10,00 |
| Six " " " " " | 18,00 |
| Untested queens " " " each | 1,00 |

Safe arrival of *all* queens *guaranteed.*

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OUR Bee Journal of the Southern States. Issued monthly at $2.00 per year. Sample copies free.

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|---|---|
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| One " " " Flint glass per gross | 9.00 |
| Two " " " " " " " | 11.00 |
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| Tin Foil Caps, per gross | 1.20 |
| Labels, " " | .75 |
| A thousand labels address printed to order | 5.00 |
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| Labels for same, " " | .65 |
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| " " per doz | 4.50 |
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| " " " " peck | 4.00 |
| " " " " pound | .45 |

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Straw Mats, Bee Veils etc., at reasonable rates.

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1tf CHAS. F. MUTH, Cincinnati, Ohio.

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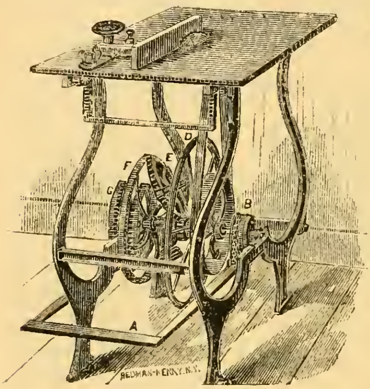

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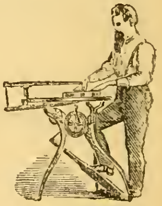

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Or how to Realize the Most Money with the Smallest Expenditure of Capital and Labor in the Care of Bees, Rationally Considered.

PUBLISHED MONTHLY, AT MEDINA, OHIO.

BY A. I. ROOT.

Vol. IV April, 1876. No. 4

*In the Preparation of this Journal the following are the Principal Periodicals Consulted:*

**American Bee Journal.** *T. G. Newman.*

**Bee-Keeper's Magazine.** *King.*

**Bee World.** *A. F. Moon & Co.*

**British Bee-Journal.** *C. N. Abbott.*

[*Also Bound Volumes of the former since 1860, and Files of all other Bee Journals that have been Published in America.*]

**American Agriculturist,**

**Prairie Farmer,**

**Rural New Yorker,**

**Los Angeles Herald,**

**Southern Farmer,**

**Scientific American.**

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| 10 | Clasps, for transferring, package of 100 | 25 |
| 0 | Cards, Queen Registering, per doz | 10 |
| 2 | Cages. “ | 10 |
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| | |
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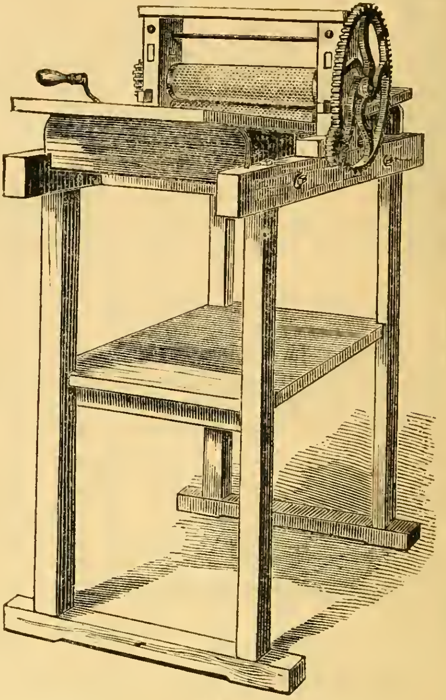
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| | “ “ “ Queen Cages | 15 |

*March 29th.*—WE have 1450 subscribers, and have lost 15 colonies of bees out of the 90. Such is——“Novice.”



COMB-FOUNDATION MACHINE.

NOW IN POSSESSION OF C. O. PERRINE.

MR. ROOT:—Sir, the Comb Foundation came to hand, and gave me the greatest satisfaction. They measured nearly six square feet to one pound, and I find it easy work to set strips 5½ by 12 inches into the frames for the American hives. March 23d '76. CONRAD DIPPEL.

P. S.—Publish this if you wish to Watertown, Wis.

SECTIONAL HONEY BOXES.

All who wish to get the most honey in the most convenient saleable form should use our Improved Sectional Boxes. *Combs built true* in the sections every time. Boxes sell for more than first cost.

4-6 Address BARKER & DICER, Marshall, Mich.

GLASS HONEY BOXES.

Just the thing for Box Honey.

*FIRST PREMIUM AT N. Y. S. FAIR.* 1874 *AND* 1875.

Circulars free. C. R. ISHAM, Peoria, N. Y. 2-3p

## $1.00 Queens.

*Names inserted in this department the first time without charge. After,* 10c. *each insrtion, or* $1.00 *per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions; No guarantee is to be assumed of purity, safe delivery or any thing of the kind, only that the Queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

G. W. Dean, River Styx, Medina Co., Ohio.
*J. Oatman & Co., Dundee, Ills. 3t2
*Dr. . P. H. Brown, Augusta, Georgia. 9tf
*E. W. Hale, Wirt C. H., West Va. 6-6
*J.M.C. Taylor, Lewiston, Fred. Co., Md. 1t6
*T. G. McGaw, Monmouth, Warren Co., Ills.

Does it snow at your house?
Read 112 sheets of tin for $8.00 on page 77.

## *NEW ADVERTISEMENTS.*

## 1876. 1876.

## PRICE LIST.

Farmer's Friend Bee Hives and Improved *one comb* Honey Boxes. These boxes are so arranged that every comb is built true as a board and not glassed till filled. Over 30,000 used last year by some of our best *box* honey apiarians.

| | |
|---|---|
| One sample No. 0 Hive, 9 frames and 12 boxes... | $3,50 |
| " " " 1 " 13 " " 16 " ... | 4,00 |
| " " " 2 " 9 " 16 top and 16 side | 7,00 |
| " " case of 12 boxes with tin separators... | 1,00 |
| Material for two sample boxes by mail, post paid | 10 |
| " " Hives................ | $1,50 to $3,00 each. |
| " " Boxes per 100.................... | $2,00 |
| " " " " 1000.................... | 15,00 |

4 GEO. T. WHEELER, Mexico, N. Y.

**Cards.** 25 with your name printed on them for 15 cents. R. W. CLARK, Medina, Ohio.

## THE ITALIAN BEE CO.

DISSOLUTION.—Mrs. Ellen S. Tupper's connection with the Italian Bee Company terminated February [illegible], 1876. The business of the Company has been assigned to the management of the undersigned. Mrs. Tupper leaves no accounts, and full particulars upon all incomplete business sent to her or the Company is desired immediately. Price lists of Colonies, Nuclei and Queens, Extractors, Hives, Seeds, etc., will be sent on application to The Italian Bee Company,

4tfd J. E. ROCKWOOD, Manager, Logan, Iowo.

## Queens. 1876. Queens.

I shall have for sale to Bee-keepers the present season, Choice Tested breeding queens. Raised in full stocks, from selected Imported Mothers. Price,

| | |
|---|---|
| One queen.......................................... | $4,00 |
| Two " .......................................... | 7,00 |
| Three " .......................................... | 10,00 |

None sent by mail.

4-10d Address JAMES LA BARE, Cincinnati, O.

## CANADA HONEY EXTRACTORS.

Made entirely of metal, $8.50 to $10.00 each. The lightest, strongest, handiest and best. You can save about $5.00 in express charges, passing the customs and duty, by ordering from me. I manufacture for Canadians to save them the enormous expense and trouble of importing. In ordering, give outside dimensions of frame or frames to be used. Sample Hives complete, the best for Canada, $1.50 each. Italian queens and bees for sale in their season. Parties in the United States should order extractors from A. I. Root, Editor of GLEANINGS, who makes the cheapest and best.

D. A. JONES,
4t$1.80 Beeton P. O., Ontario, Canada.

## ARTIFICIAL
## HONEY COMB FOUNDATIONS.

Having purchased the patent for the manufacture of this article, it can be had only of the undersigned.

PRICES AT PRESENT WILL BE AS FOLLOWS:

| | | | | |
|---|---|---|---|---|
| Made of yellow beeswax, small sample lots, 6x6 inches, one pound or more, by mail, post paid, per lb...... | | | | $1,50 |
| 12 inches wide and several feet long or in one continuous piece rolled and packed carefully, 5 to 10 lbs., by express or freight.............. | | | | $1,20 |
| do | do | 11 to 25 lbs., | do | ...... 1,15 |
| do | do | 26 to 100 lbs., | do | ...... 1,05 |
| do | do | over 100 lbs., | do | ...... 1,00 |

If cut to any size ordered, add 10c per lb. to above prices.
If made of *white beeswax*, add to above prices 30c per lb.
If ordered by mail, add 20c per lb. to above prices.
No charge for packing cases or cartage.
Full weight, and quality warranted as represented.
The money must in all cases accompany the order, except by special arrangement.
Samples of white and yellow, in box, by mail 10c.

**C. O. PERRINE,** 7 Market St., Chicago, Ill.

☞ Will pay 30c per lb. for choice yellow Beeswax delivered here. 4tf90cp

## PURE ITALIAN QUEENS
### FOR 1876.

I have on hand 100 Italian queens, raised in May and June last. They were propagated in populous colonies, are pure and prolific. Price $5.00 each. I will pay express charges and guarantee safe arrival.

3-qd W. P. HENDERSON, Murfreesboro, Tenn.

## CHOICE CATNIP SEED.

I have a lot of Strictly Choice seed, collected from cultivated plants by M. Nevins, of Cheviot, O., which I will sell at 50c. per oz., or at $6.50 per lb.

CHAS. F. MUTH,
3-8d Cincinnati, O.

## 125 Colonies Italian Bees For sale at $7.50 Per Colony---10 for $70.00.

Bred from Imported Mothers; are in good movable frame hives, well painted: are in good condition.

3tfd M. PARSE, Pine Bluff, Ark.

## Italian Queen Bees & Full Colonies
AND
## Pure Bred Fancy Poultry for 1876.

For Circular, Address Postal Card to Lowell, Garrard Co., Ky. 2p-5 R. M. ARGO.

## Italian Queens For 1876.

Having disposed of all the black bees in our vicinity we are prepared to furnish *Choice* Queens, bred from *Imported* and *Selected* Mothers. Careful attention being given to the selection of *Drone Mothers*; allowing *none* but those selected, to produce them.

At the following *low* prices we will furnish

| | |
|---|---|
| 1 Unwarranted Queen.............................. | $ 1.00 |
| Safe arrival warranted on orders for six or more. | |
| 1 Warranted Queen.............................. | 1.50 |
| 1 doz. Warranted Queens.............................. | 15.00 |
| 1 Tested Queen in May or early June.............. | 3.50 |
| 1 " " after June 25th.............. | 2.50 |
| 1 doz Tested Queens after June 25th.............. | 25.00 |

NUCLEUS STOCKS.

| | |
|---|---|
| Small Nucleus Hive and Tested Queen............ | $ 3.50 |
| 2 Full Sized Frames 11-12 and Warranted Queen.. | 4.00 |
| 4 " " " " " " .. | 6.00 |
| 1 Colony Pure Italians.............................. | 10.00 |

Satisfaction guaranteed.

Address, J. OATMAN & CO.,
2-4p7d Dundee, Kane Co., Ills.

## 50 Colonies
OF
## Pure ITALIAN BEES.

Full Colonies in hives with 10 Langstroth frames, $14.00. Queens all reared in 1875 from Imported Mothers. Purity and safe arrival guaranteed.

Address, E. C. L. LARCH, M. D.,
2t5 Ashland, Boone Co., Mo.

## 500
## Colonies of Italian Bees for Sale.

On account of my failing health, I will sell and ship, between May 1st, and May 20th, 500 Colonies of Italian Bees, in 8-frame Langstroth movable-comb hives in good condition in every respect, and guarantee safe arrival if ordered in lots from 1 to 20, shipped by Express, for the following prices:

Single Colonies, $11.00; 2 to 6, $10.50; 7 to 20, $10.00; 21 to 500, $9.00. Hybrids, 50 cents less.

Orders must include cash, or will not be noticed. If large lots are ordered the purchaser must run his own risk of safe arrival. Having wintered 1,400 colonies I will doubtless be able to make a satisfactory selection.

ADAM GRIMM,
Jan. 19, '76. 2-4d Jefferson, Wis.

# EARLY ITALIAN
## QUEENS FOR 1876.

I can send tested queens in the spring as early as the weather will admit. Also tested queens in strong nuclei of three full sized frames (17x9 inches) of comb, bees and stores. By purchasing these small colonies, all danger of losing the queen in introduction is avoided; besides they can soon be built up into strong stocks.

### IMPORTED QUEENS.

"This is to certify that Dr. J. P. H. Brown, receives Italian Queen Bees through this office, imported direct from Italy." C. H. BUCKLEY, Agent Southern Express Co.
Augusta, Ga., Oct. 11th, 1875.

During the season I shall receive invoices of imported queens, every few weeks, from a district in Italy that is said to contain the finest type of the Ligurian or Italian Bee. Send for circular to

DR. J. P. H. BROWN, Augusta, Georgia.

# SEED POTATOES.

*ALPHA*. The earliest. White, dry, excellent. One pound by mail....................$1.00

*SNOWFLAKE*. The best potatoe ever grown, great yielder, smooth and handsome—cooks flowery. Three pounds by mail....................$1.00

One bushel by express.................... 2.00
Brownell's Beauty, one barrel.................... 2.50

4 Address, W. S. LUNT, Fostoria, Ohio.

# Columbia Apiary.

**Queens from Imported Mothers for 1876.**

We will send Queens the coming season as follows:

| | |
|---|---|
| One tested qeeen from Imported Mother. | $3,00 |
| Untested queens " " " each | 1.00 |
| Nucleus, with tested queen " " " | 6,00 |
| Colonies " " " " " " | 10,00 |

Safe arrival of *all* queens *guaranteed*.

1tfinq STAPLES & ANDREWS, Columbia, Tenn.

**Every Bee-keeper should subscribe for it.**

# The American Bee Journal,

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
1f 184 Clark st., Chicago, Ill.

# "VINEYARD APIARY."

*AGAIN WINTERED SUCCESSFULLY.*

Tested queens or full colonies furnished again this season in my Non-Patent Hives. No useless traps or fixings about them. Send for Prices.

4t8 JOSEPH M. BROOKS, Columbus, Ind. Box 130.

**WM. W. CARY,** Colerain, Franklin Co. Mass. Sixteen years experience in propagating Queens, direct from imported mothers from the best district in Italy. Persons purchasing queens or swarms from me will get what they bargain for. Send for circular. 3tfq

**Queens. 1876. Bees.**

Bee-keepers in want of First Class Queens, (Imported or home bred.) Nuclei or Full Swarms, should get them at the Keystone Apiary. Price list, free. Address KEYSTONE APIARY, Corry, Pa. 3-5

# HONEY BEES.

SEND for E. W. Hale's price list of Queens for the year 1876. All Queens raised in full colonies and from Imported mothers. No Bee disease in my locality.

2-7d Address, E. W. HALE, Wirt C. H., W. Va.

## SEEDS.

ROCKY MOUNTAIN Bee Plant seed and Chinese Mustard seed, at 20c. per oz., ¼ lb. 40c. or $1.25 per lb. I will warrant seed good, as we have tested it.

50ep2-4 A. A. RICE, Seville, Ohio.

# Averill Chemical Paint.

THE *ONLY* RELIABLE.
THE *MOST* BEAUTIFUL.
THE *MOST* ECONOMICAL.
THE *MOST* DURABLE.

Requires no oil thinner or drier,
Requires no waste of time in mixing.
Has stood *eight years' criticisms*
With *yearly increased popularity*
And *yearly increased* sales.

Is sold by the gallon only, in packages of from 1 to 40 gallons each, in Purest White and any Color or Tint desired.

Address, for sample card of colors and price list,

**Averill Chemical Paint Co.,**
Office and Factory 132 & 134 East River Street,
CLEVELAND, OHIO. 6-6-'76

# ITALIAN BEES.

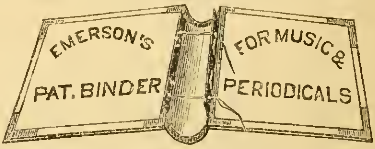
FULL STOCKS $12.00 to $15.00. Tested queens each $3.00. Warranted queens each $2.00. Bred from imported and selected stock. Sent by mail.

Address, T. G. McGAW,
4-6 Lock Box 64. Monmouth, Warren Co., Ill.

# GLASS HONEY JARS.

| | |
|---|---|
| 1 lb. Round Jars per gross | $5.50 |
| 2 " " " " " | 7.50 |
| Corks " " ....75c. and | 1.00 |
| ⅓ Pt. Honey Tumblers, plain or ribbed, per doz.. | 40 |
| 6 doz. in a box. Packages | 40 |
| ½ Pt. Honey Tumblers, plain or ribbed, per doz.. | 50 |
| 6 doz. in a box. Packages | 45 |
| ⅓ Pt. Honey Tumblers, Tin Top, per doz | 65 |
| 6 doz. in a box. Packages | 40 |
| ½ Pt. Honey Tumblers, Tin Top, per doz | 75 |
| 6 doz. in a box. Packages | 45 |

Also Window Glass, Lamp Chimneys, and Glassware of all kinds. For sale by B. L. FAHENSTOCK, late B. L. Fahenstock, Fortune & Co., Glass Manufacturers, 76 Wood St., Pittsburgh, Pa. 11tf



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though it were months ago.

Binders for GLEANINGS (will hold them for four years) gilt lettered, free by mail for 50, 60, and 75c, according to quality. For table of prices of Binders for any Periodical, see Oct. No., Vol. 2. Send in your orders. A. I. ROOT, Medina. O

# CLUBBING LIST.

We will send GLEANINGS—

| | | |
|---|---|---|
| With The American Bee Journal | ($2.00) | $2.75 |
| " The Bee Keeper's Magazine | (1.50) | 2.25 |
| " The Bee World | ( 2.00) | 2.50 |
| " All three, The Bee Journals of America, | | 5.25 |
| " British Bee Journal | ($2,00) | 2.75 |
| " American Agriculturist | ($1.60) | $2.35 |
| " Prairie Farmer | ($2.15) | 2.90 |
| " Rural New Yorker | ($2.50) | 3.25 |
| " Scientific American | ($3.15) | 3.90 |
| " Fruit Recorder and Cottage Gardener | ($1.00) | 1.75 |

[*Above rates include all Postage.*]

# Books for Bee-Keepers.

SENT postpaid on receipt of price.

| | |
|---|---|
| Langstroth on the Hive and Honey Bee | $2.00 |
| Quinby's Mysteries of Bee Keeping | 1.50 |
| Bee Keeper's Text Book, muslin, | .75 |
| " " " " paper, | .40 |

These are the best, but are all far behind the times.

A Manual of Bee-Keeping, by John Hunter.....$1,25

This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
*Publisher and Proprietor,*
**Medina, O.**

**Published Monthly.**
**Established in 1873.**

**TERMS: $1.00 Per Annum in Advance; 3** *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more,* 60*c. each. Single Number* **10c.**

Vol. IV. APRIL 1, 1876. No. 4.

## FOUL BROOD.

### WHAT IS IT? WHENCE IS IT? AND WHAT SHALL WE DO FOR IT?

EDITOR OF GLEANINGS: The above questions have a painful interest to bee-keepers in this vicinity, and I desire space in your journal to state the "situation," and ask the best counsel of those who have had experience with this trouble.

Some three years ago, J. D. Kruschke,—an apiarian, of no mean pretensions, [as numerous articles in *A. B. J.*, and GLEANINGS for the last three years testify], came among us from Illinois, to engage in bee-keeping; and claiming that with the "movable comb" and extractor, bees could be made to pay large returns, scarcely limited except by the cupidity of the apiarian—an idea something like your own, some years since, when you had to clean out the cistern to make room for the nectar. Of course we opened our eyes wide with astonishment at such statements, and watched the process with much interest.

Mr. Kruschke brought with him some fifteen stands of bees from Illinois,—obtained, to keep on shares, about as many more—transferred them to movable frames, and *drove on.* As the season progressed, and the honey began to come in, he started the extractor, put on boxes, and gave his bees plenty of room—continuing to use the extractor until some time in September, when he "rested," wished his bees well, and left them to fill up for winter. He utilized an old hop dry house, [that was lined with brick and had a stove in it], for winter quarters; but the winter was cold, the bees became uneasy, and on a warm day in Jan. he set them out for a fly, put them back, and anxiously awaited the spring. But the bees became uneasy again. got the dysentery, and in the spring were all "gone to their long home."

He then went to a neighboring town and purchased some 25 or more stands—cleaned up his old combs and hives, and started in again—using his combs and increasing, until in the fall he must have had some 70 or 80 stocks. This time he took an old cellar and roofed it over, covering it with earth, for winter quarters, in which they seemed to winter pretty well; and in the spring he sold a number of colonies to replenish the exchequer, and started out with fine prospects. All seemed to go well for a time, but after awhile some of his colonies did not seem to be doing well, and on examination he found their combs contained dead larvæ which the bees did not clean out, so he exchanged combs with stronger swarms, thinking they would clean them up and make it all right. He this year run the extractor till late in July, or August, and about Aug. 22d, we had a frost that killed corn on the low lands and so his hives were light in the fall.

During this season some of our best apiarians visited him and pronounced his trouble to be foul brood; and on looking farther it was found that the bees he had sold to other parties (one of whom he had instructed in bee-keeping, as per *A. B. J.*, of Feb., page 50), were diseased also, as described above. Now in view of the above situation, Mr. Kruschke adopted the heroic treatment and destroyed his bees, melted his combs into wax and piled up the hives and frames for sale or future use.

One of the other parties has done the same with three stands purchased of Mr. Kruschke, while two or three other parties have not yet eradicated the disease, but are in anxious suspense, desiring to prevent farther mischief, but not knowing exactly what it is best to do.

The above, I believe to be a fair statement of the facts, and as no foul brood was ever known here before, and Bro. Kruschke is sure he did not bring it with him from Illinois, we desire to ask,

First: Is there more than one type, or form of foul brood?

Secondly: Should we believe that it was brought here from abroad or was it originated in some way in Mr. Kruschke's apiary? and if originated here,—at what time, *probably*, and from what cause, in view of the above description? and last, and most important, what is the best way to eradicate it?

Are worker combs—but little affected, worth saving, or is it wiser to make a clean thing of it, and destroy every thing that shows the disease? Would the hives and frames that have had foul brood in them, communicate the disease after exposure to winter temperature of 20° below zero? L. BECKWITH.

Berlin, Wis., Feb. 15th, 1876.

There seems to be a little tendency to find fault with our unfortunate friend Kruschke, yet we can not find that he has as yet, done any thing out of the way. As we have never seen foul brood aside from that sent us in bits of comb, we are unprepared to give an opinion of it. We believe its origin is as yet unknown, although many are the theories and conjectures in regard to it. We can give no advice in regard to remedies, more than has already been given in former articles. One thing is very plain, and that is that every one should exercise the utmost care in preventing its getting a foothold where it is at present unknown.

As it is generally conceded that foul brood is a species of microscopic vegetation we are inclined to think the freezing would kill it as effectually as it does the moth miller. For the same reason we can not think his troubles in wintering and his using the combs from which the bees had died could have any thing to do with its origin.

## FOUNDATIONS OF DRONE COMB, HONEY BOXES, ETC.

FRIEND NOVICE :—You don't tell me what you think of using the nursery in a wooden box outdoors. If I must break my back lifting an old stove around, I shan't use the nursery at all.

I have made some plaster casts from drone comb, to use in small frames, as I very much prefer drone comb in the surplus and boxes. I visited one apiary last season, where worker comb had been used quite extensively for starters in the frames; white clover yielded very slowly in that location, but pollen was abundant, and the uprights of the small frames used were $1\frac{3}{8}$ inches, just the same spaces as in the brood chamber, and directly over it. The bees were breeding some in the supers, and they filled a good many frames with bee bread. I saw many nice frames of new worker comb, almost entirely filled with brood. Of course all such had to be cut out and fastened into brood frames. Now if drone comb had been used for starters in frames, (with uprights $1\frac{5}{8}$ to $1\frac{3}{4}$ wide) and but little drone comb left in the brood chamber, the bees would have built all drone comb in the small frames, and of course there would have been no bee bread in the supers; and I think they would not have brooded in them as much as they did, where the spaces were a continuation of those between the brood combs. My conclusion is, that I want all drone size for starters in boxes, and frames; have used such almost exclusively for the past five years with good success. Haven't got my wax bleached yet, but made a few guides from yellow wax, to try the casts. Those made are too thick to suit, but the weather is very cold, and I have had little practice.

The next point is, how will the bees take to them? the smart stocks, those that secrete wax readily, will see the advantage at the first glance probably, but those light colored lazy fellows, I suspect will have an excuse, that they did not know what those guides were meant for.

My plan is to make the casts 5 inches or more long by 2 inches wide, so as to have the guides fastened at top and bottom, 2 inches wide, but don't know but they will sag when the bees cluster on them, and warm them up. Shall try and put one or two strips of real drone comb in the middle boxes; a few for a start in each hive.

If they could be made with a cell foundation, like Long's, with the bottoms of the cells thin enough, I think they would be decidedly preferable, as the difficulty generally is, to get them to add or join on, the first wax as soon as they ought, and if the cells are deep enough, so they can put in a drop of honey, they will readily see the necessity of lengthening the cells.

Well, I see you don't want any advice about hives, so I suppose this will be paper thrown away; but if you will read it and consider, I am satisfied! for if you don't have the best rack in America, the responsibility won't rest with me. I know you won't adopt it, because you are like me, and a great many other bee-keepers, you can't be told anything till you have the experience and see the reality.

Your rack with the hoop arrangement has more objections than the other, as all the weight is on the lower hoop, which is not stiff enough to lift off a set of filled frames; much less two or three tier; by trying it, you know how 'tis yourself. Then with your tins soldered together to go across the bottom, there is no chance to get your fingers in, between the rows of frame to handle them, you will find this is a very serious objection to fast handling. Then, if you take off the top hoops to see how the bees get along, if they need tieing up or anything, they will be out all over, and it will take a good deal of time to close up again, just when time is more valuable than glass.

Of course you can if you choose, put in two cross pieces, the same as we use in our racks 7-16 inches thick, by $2\frac{3}{4}$ wide, and nail through three hoops on each side, into the ends of the cross pieces, giving you the spaces between the rows, and the strength of three hoops; but I think it would suit you better, to use one of our racks. That is make it to fit your hive, and bevel the edges to fit the hoops above and below, using the same cover you now do.

Enclosed is a description of our rack as we now make it. In using small frames in these racks, we shall put them together to form boxes, with a glass on each side. Our frames are $5\frac{1}{2}$ inches high by $6\frac{3}{8}$ long, outside measure, and of course the glass must be just that size. We then cut paper $5\frac{1}{2}$ inches wide and long enough to reach across the ends of frames, and lap $\frac{1}{2}$ inch on the ends of glass at each side; put the guides in the frames, and put these papers on with strong paste, and you have a very strong box. Eight of our frames fill a row, put four together to form a box, two boxes to a row; then when we tier up, if the outside comb is not so forward as the inside, we can reverse them, turning the outside in, and get it all finished up together.

We have made some boxes by putting two frames together, making a two comb box, which can be sold with glass as box honey, or if the customer prefers, the glass can be taken off and the honey retailed as frame honey.

### J. P. MOORE'S RACK FOR BOXES AND SMALL FRAMES, LANGSTROTH SIZE.

Take stuff 7-16 inch thick, by $2\frac{3}{4}$ wide; cut 4 cross pieces $15\frac{1}{8}$ inches long, and 2 side bieces $21\frac{1}{4}$ inches long. Nail through the side pieces into the ends of cross pieces, put 3 finishing sixes into each end of every cross piece; putting together so as to form 3 boxes or spaces, without top or bottom; each to be $6\frac{1}{2}$ inches wide, by $15\frac{1}{8}$ long, by $2\frac{3}{4}$ deep. Get Russia sheet iron, cut with a machine, 2 pieces for middle $\frac{7}{8}$ inch wide, and 2 for end pieces $\frac{5}{8}$ inch wide; punch 5 holes in each, on a block of hard wood, with a square end punch, so as to take a piece out; punch the $\frac{7}{8}$ inch ones along the middle, the $\frac{5}{8}$ ones a little nearer one side, and nail these irons on the bottom edges of the cross pieces of the rack, with $1\frac{1}{4}$ inch finishing nails, letting the edges project $\frac{1}{4}$ inch into the spaces, to support the ends of boxes and small frames, when set down into the spaces. Use boxes and small frames $6\frac{3}{8}$ inches long in this rack, of such width, as to leave $\frac{1}{8}$ inch side shake.

J. P. MOORE.

Binghampton, N. Y., Feb. 22d, 1876.

To keep a nice even temperature in the lamp nursery, without too much trouble, it should be kept in a close room. If you have it outdoors, it will take much more oil for your lamp unless well protected. We use the largest sized burner, and our lamp will keep either the old bee house, or house apiary quite comfortable during a frosty night.

There is another reason why drone comb would be better for the boxes, other than its being generally free from pollen; it contains less wax, and less labor by the bees, to hold a given amount of honey, and on the latter account we have thought considerably of having a machine for making drone foundations also. If the queen is going to get into the surplus apartment, as she often does, it is much more desirable that she should *not* find drone comb there; see page 83.

But we do want advice friend Moore, from you and every other one of our readers who has had experience where we have not. We have made arrangements to "interview" the cases and packages of most of our producers of box honey, and after we have done this, we shall feel that we are prepared to decide what kind we can furnish our patrons cheapest, and what will serve them best, all things considered. The tins you mention have held over

100 lbs. without injury. There is a chance to get hold of the sections after all, and since you have spoken of it, we think we shall put glass in the ends of sections just to keep the bees all inside. Cutting paper and pasting on is decidedly too much bother in our opinion. Our improved sections are already in one long box, and yet they can be separated in an instant. Thanks for your many valuable suggestions.

*March 7th*—The following from our friend Geo. T. Wheeler, who is excellent authority, is just at hand:

> (After reading GLEANINGS, page 56). Bees will *not* build combs true enough to *glass up* in one comb boxes, if the guide combs *do* fill the box. Will send you a case arranged as we use them, which will secure *true* combs. G. T. W., Mexico, N. Y.

Now as *we* certainly don't want our honey put on the sections so crooked that it will get broken and be daubing when the sections are separated, it well behooves us to look carefully into the matter. We feel thankful we have so many kind friends who are ready to see that we make no *very* big blunder in our comb honey arrangements.

## A NEW PROPOSAL.

BEE-KEEPERS! LO! ALL HAIL!

A MOST WELCOME OFFER AND GLORIOUS ENTERPRISE FOR Modern—APICULTURE'S—Needed REFORMATION.

Cleaning our Temple from all humbug, errors, prejudicial drawbacks, and from the manifold artificial cruelties, miseries and failures. This reform will *now* come by establishing "*Best Examples*" in Bee-Keeper's Academies or

BEE MISSIONS, with MODEL APIARIES

for natural or congenial—humane—therefore blessed

BEE-KEEPING in BEE-TEMPLES,

introducing this best invention, the coming apiaries (hive house system, etc.) for a *new*, most agreeable, *comfortable* and soon *permanently*

FASHIONABLE STYLE OF BEE-CULTURE,

which unfailingly will make a *general sensation!* will attract into our noble fraternity thounands of GENIAL bee friends, rich and poor,

Ladies and Gent's,

and will render this our *wonderful occupation* to them all a paying fascinating, noble sport! *yea, business!* a God-send, purest, richest source of

HEALTH, WEALTH AND PLEASURE!

MY CREDENTIALS AND CONDITIONS OR TERMS.

This needed reformation will soon bring at issue: our three burning *questions* or *problems* for best bee-keeping: 1, the best hive,—2, the best arrangement,—3, the best system,—and will so "clear our field" from weeds! Now hear!

These problems can not be well solved if done in the wrong order and without regard to the "Highest Idea" of bee-keeping.

According to this we have NEXT to find out: 1: the only one reliable, most profitable and all-comfortable—

THE HUMANE SYSTEM,

2: for this system the best *arrangement* for the hives—this leads to the "*hive-wall—hall*" or "*bee-wall-hall*," as the best of the very different classes of house apiaries (*a*, the repositories, *b*, the hive-wall-halls; *a*, built *for* hives, *b*, built *by* hives or *out of* hives, either by piling or by compartmenting) and for this latter, as the best method, we have, now at last, (not first!) to find out "the best hive" its hull, size, shape, interior, etc., modified and so classified to the different notions, wants, purposes, climates, circumstances, etc. of bee-keepers.

To solve well these problems and to find out the very best of all the variations, combinations, and manifold possibilities (!) in our vast field of investigation, no doubt—we must first know and consider them *all*, and therefore first—*see* ALL (the whole and *full* assembly or assortment in *good order*) at least in their *idea*, for a "*spiritual review*," yes,—like a seer—and then be practical and experiment upon, what seems doubtful and—*the prejudices down*—and so *select* the best one, *by trying* finally the good ones in their—working!

O dear! What shall become of me!

Who did or may do this *big job* for himself (and so —perhaps—for us)? Who has the time and stamp—head, hand and heart—to do it, or to show it already done for us, and—at least by "*words* and *drawings*" will teach us, what we want to learn, to know?—so saving us the time, big costs, and hardest work of "racking our brains—*dear experimenting* and—*failing* (!) or *repenting*" not to have known this all *before*(!) building and spending the money for the "NEXT best" invention! ?—He will be welcome and shall find us reasonable and not expecting him to work for nothing or for—being laughed at. If needed, we may get him a *macen*, (or a situation in a *wealthy* bee friend's service) or a partner, publisher, or a subscription for his "ILLUSTRATED book, pamphlet, circular or *series of* LETTERS *in our journal*"—so, he may come to the front and we will listen to him, not refute him, if even he may have (like most inventors!) NEXT *nothing else* to offer, for inspiring and winning confidence—but to permit us:—a *glance* into the "stores in his brain" about the matter in question.

Well then! may be, I am your man? and the following may suffice you as my credentials?

*Fifty years being*, and TWENTY-FIVE YEARS BEE-ING I am, and so out of a treasury of long studies, large experiments and dear paid experience (in the Old World) I can and will tell you *all about the best house, hive* and *system* for finest bee-keeping—in following chapters:

1: The *Ideals* for bee-keeping? the highest? 2: the various *ways* and *systems*. 3: The manifold *arrangements*. 4: The very different *sorts* of bee houses for house apiaries and their hives: *classification*. 5: Selection. 6: Pleasant *styles*: huts, cells, cell's and cabins, hermitages, pavilions, (inside crystal—or glass palaces). 7: The best and cheapest, finest and fairest: "OUR JEWEL," the "BEE-TEMPLE"—THE GEM FOR country seats, the "crown for apiculture." Description: Improvements—construction—outfits—qualities and advantages—costs. 8: The large *experiences* in mine and others—in dear old Switzerland—1860-'70! 9: *Precautions*, prejudices and warnings. 10: Experiences with the *comb foundations largely tried* in house apiaries. 11: The bee-houses (bee-cabins) as "*Inhalation Rooms*" for balsaming the lungs—hygiean homes. 12: The house apiaries as *bee friend's homes*, combinations of bee's and men's dwellings. 13: The house apiary *for all climates!* Its temperature most simply regulated, also swarming and *non*-swarming. 14: *Stinging* and the bee house! operated most easily, —comb tongues. 15: The house apiary—no valid patent possible such as to "COVER THE HOUSE,"—and the patent men! only poor hopes left for them—this "our" field and crop. How to get rid of the wrong ones, of their too broad claims and their arrogance. 16: The past and future of this invention. Its history. 17: Etc., etc. (Add's: The comb-tongue—the *framer's mould—the best* place for the fly-holes, etc.)

As further publications out of the treasury of my studies and experiences may by and by follow.

*Blessed* HUMANE *bee-keeping* and the reforms for it. The rural *architect* for house apiaries. Landscape *gardening* and *farming* for apiculture, (artificial bee-pasture). *Apiculture and Hygiene. Bee-Templars*, a best ally and champion for the holy casue of the "Good Templars" and the "Women's Crusade."

Temperance! THE NEW ERA OF APICULTURE or the beneficial influences of GENERAL, humane bee-keeping for the welfare of our planet and Her Majesty's subjects and inhabitants. The adornment of mother Earth by happy country people "*with bees on small farms*," and by their Industry, Temperance, Economy, Health, Wealth, Happiness, Morality, Wisdom and Peace!—THE BEE HIVE A HOLY BIBLE.

Realization here and practical examples, I hope, I shall be able to show, as soon as I, professor in the wilderness, carving out a home,—now a poor Pegasus in Yoke, and the very Bee-Tantalus in Purgatory (for big sins against "*humane*" bee-ing)—can get pardon and redemption and be "*with*" bees again!—Then I shall have my (now bound) time, hands and small means free for doing best repentance by establising in a good location my *Bee Mission* or *Academy for Apiculture*, with model apiaries, honey house and (may be) Hygeian homes.

Help Heaven! What work and holy task! God grant me some years more!

Truly your Bee-Templar: Apiphibus,
M. VOGEL.

Boyne P. O., Charlevoix Co., Mich.

By way of explanation we will add that friend Vogel is an enthusiast; and that his especial hobby is hives piled on top of each other in such a way as to make a house apiary. Two walls are thus made of hives, and the hall formed between them, is the place where the bees are handled. Of course the frames and honey boxes are to be all drawn out from one side.

While such a plan seems to be little in favor with the bee-keepers of our country, it has been used quite successfully in the Old World, in some cases. Hives can be built quite economically in this way, and if one can be induced to forego the pleasure of being able to remove the top of the hive, it might be made to do very well. We suggest that where frames are to be pried loose when one is reaching back to the farthest frame of a 10 frame hive, it must at times be somewhat aggravating.

* * *

[For Gleanings.]

## WHY DO QUEENS LAY? ETC.

IN July last, while holding a frame containing brood, bees, and a queen, in my hands for inspection; (taken from a hive containing 2600 square inches of eggs and maturing brood, as ascertained by actual measurement). I distinctly noticed eggs dripping from the queen at the rate of several each minute, as she slowly crawled over the comb in search of empty cells. I therefore, very naturally concluded, that that queen, at least, *laid eggs because she could not help it.*

I have repeatedly noticed eggs dripping from young queens in small colonies, where brood combs were scarce.

In November, 1874, I had a young queen with a pint of bees on a single comb, in a glass observation hive, situated in a sitting room, with a passage for the bees communicating with the open air. I daily fed them, and carefully noted the effect.

Each morning the small bottom board was strewn with eggs that had dripped from the queen. During the day, the bees carried many of them out; perhaps all of them; perhaps not. It may be that they ate some of them as has been suggested; I could not determine. But that they carried most of them out of the hive and left them in the passage way, I know.

In the midst of my observations I desired to insert a thermometer in the cluster. To do this I attempted to keep the bees down with a puff of smoke, which set them all in commotion. Mrs. C. was looking at the queen at the time, and reported that the bees instantly attacked her.

With no obstruction whatever, we watched the result, and saw her own daughters worry and sting her to death. Why was this?

I invariably make use of smoke when extracting, and handling bees for other purposes, and am sure I have never lost many, if any other queens, in consequence.

In the course of a few days I introduced a second thermometer, and placed the bulb of one *above*, and the bulb of the other *below* the cluster. In such a condition I subjected them to various degrees of temperature, and carefully noted the effect. Considering the results of these observations of some value, I will report them at some future time.

In this connection, allow me to predict that the bees you left with so much "upward ventilation"—no quilt or other protection save the roof—will certainly perish as victims of "spring dwindling," before May.

Very truly, G. E. CORBIN.

St. Johns, Mich., March 2d, 1876.

The above is just in time to give us a vivid sense of the importance of giving all our queens plenty of room as fast as they can use it, plenty of bees and stores, and a good snug hive. Friend C. is right in regard to the bees with no quilt, etc. They did get the "dwindling," so badly that we put a quilt over them and contracted the size of their hive with a division board. Please tell us the result of the experiments mentioned by all means.

* * *

## VARIOUS MATTERS.

DEAR GLEANINGS:—We have been waiting some time, expecting to hear from some one besides P. Herring, on the subject, "How far do bees fly?" but as no one seems desirous of saying anything, we have a word or two more we would like to say.

Novice says (page 152) "a radius of 1½ miles would cover an area of nearly 5000 acres," and seems to think we are deranged by intimating that 20 colonies might overstock such an area. If he will refer to what we wrote on said page he will see we said a *poor* locality.

I have been in many places where 5000 acres would not produce 10 basswood trees, and no white clover except a little by the road side, a few acres of buckwheat, and here and there a few stunted apple trees. How much honey do you think 20 swarms of bees would produce if confined to 5000 acres of such pasture as the above?

Novice also says "you have all observed how they (the wings) get worn down to jagged stubs during the linden bloom." Beg pardon, we have observed no such thing; that is, to any such extent as they do when clover is in bloom. White clover with us grows mostly in meadows, and in order to get it the bee must fly down in the herds grass, and so by constantly hitting the wings against said grass they become worn as he says. By the time basswood is nearly over we see but very few such bees, as the ones that worked on clover have mostly died. We are positive on this for we have noticed our bees (after basswood was all gone with us) going and coming in one direction and followed them between four and five miles to a high hill where basswood was in full bloom, and at that time there were not half as many with worn wings as there were in clover bloom. Our boxes also were being as rapidly filled as they had been at any time when basswood was plenty near home. We would very much like to know how Mr. Herring gets bees to work on his bait when clover or basswood is yielding plentifully. We have tried it several times but could not succeed. Bees have been hunted in the fall and started three miles from Skaneateles lake, which is two miles wide, followed to the shore and found to cross the lake to an apiary nearly two miles beyond it. Mr. Herring's "good places" he speaks of are simply where the bees get a start or draw to. We have seen basswood trees fairly alive with bees, while others within 10 rods of them would not have a bee in them, when you could easily shake the honey out of each. See our post-script, page 135, Vol. II.

J. A. Buchanan, page 47, seems to be down on light colored bees. Now we never had any dark ones except those raised from the queen we got from the eggs sent by Novice. But we have had plenty of black and hybrids, and with us the nearer pure they are the better honey gatherers they make. To illustrate: in 1872, when basswood was gone we had not a box of honey filled. After a week or so the seed crop of red clover came into blossom, and our Italians and hybrids commenced to work on it, but the black bees did nothing but consume their own stores and carry what little honey they had in the boxes, down into the hive. Our best and lightest Italians filled their hives, and stored 60 lbs. in boxes; and the hybrids stored just in proportion to the amount of Italian blood there was in them. Those that were more than one-fourth Italian got about enough to winter, but all the blacks I had to feed. The past fall I found the hives that had the lightest bees, full of honey, and as some of my poorest hybrids (have no black bees now) were short, I changed frames with them. If his "earthly possessions" are of much value he'd better back out of his assertion.

Dear Gleanings don't you think what Novice says on page 49, about smokers, savors somewhat of willful ignorance? Perhaps if he had given them a thorough trial, he would have been as loud in his praises of them, as he now is of the Quinby smoker. Why did he not try them? Simply because they were made on the old plan of blowing from the mouth. Now if we did not value our "earthly possessions" we would—but stay, we will only say that if an apiarian has plenty of time, he can fuss with a bellows smoker, a roll of cotton rags, or even do without any smoke at all; but we have not the time to spare. When we take off from 500 to 1000 lbs. of box honey in a day, we have to make a business of it; and as we do not want to hire an assistant to smoke for us, (*a la* Quinby's book) we have one of these smokers that are blown from the mouth, and so keep a stream of smoke on them all the time. If we wish to handle frames rapidly, we can't wait to work our fingers down amongst the bees, so our smoke goes on to these self same bees at each end of the frame, and they are out of the way in a jiffy. When our head is bent the smoker hangs by the teeth, and when we stand up it is held by the rim of the hat. Once filling will give us smoke to take off 100 lbs. honey, and put on empty boxes for the same amount. This blowing a little smoke on the bees and then laying the smoker down, won't work taking off sectional boxes, with a hive full of cross hybrids; say nothing about our not wanting one hand tied up to a smoker.

Now what is Novice trying to get at on page 53, about two entrances? How does having an entrance near the top save travel in the honey season? The bees that bring in the honey, as a rule never put a drop into the cells. As soon as a bee comes in with a load, she passes along until she meets a young bee that is empty, gives the load to this bee, stops to rest a little while if tired, and goes immediately out for another load. With pollen this is different; as it is placed in the cell by the bee that brings it. But she does not stop to pack it in the cell. One of the young bees does it. E. Gallup says on page 172, Vol. III, *A. B. J.*, "When bees gather honey more than their honey sacks can contain they (the young bees) deposit it in the cells, etc." Also on page 204, same Vol., "Upward ventilation is wrong for the breeding season, and so is any contrivance for the bees to pass directly into the surplus honey boxes from the outside of the hive; for the bees that gather the nectar from flowers are not those that store it in the surplus boxes." Any one can satisfy himself on this point, by having an observatory hive holding one comb, or by placing an Italian queen in a black swarm. About two weeks after the last black bee has hatched, you will see none but black bees going out and in at the entrance, in the forenoon, while if you look in the boxes you will see none but Italians there, and you will see them constantly depositing honey in the cells.

Although not from Michigan we will answer the questions asked on page 56. Comb will not be built in section boxes true enough to glass, without some kind of a separator between each box; for the honey will bulge out in places, the same as you see it along the top bars of frames. These separators should be put in so the heat can radiate through each box at bottom and top, or in other words be the same as one large box. Guides used should be comb, (white) or comb foundations, and the more you use the better. If you can fill each box full, the bees will fill them in one-half the time; but a piece one inch square answers every purpose for getting just one comb in each box or frame. If you do not want to glass it, they will build true enough for all purposes without separators.

Bees wintering well so far. Have lost none yet. Contrary to expectation for such a warm winter I do not find nearly the brood there usually is this time of year, and strange to say those in the cellar have far the most.

G. M. Doolittle.

Borodino, N. Y., March 10th, 1876.

If you don't stop abusing us friend D., we will get down from our stool and let you be "school-master" awhile. Perhaps we may as well own up that it never occurred to us that we might hold a smoker in the mouth and work with both hands; and we really don't know but you are right about it. The fact is we have never worked with the boxes—shall this season though, at least until we get tired of so much fussing and go back to the easy and simple extractor, as we have always before—and we have been in the habit of so constructing our hives that they could be readily manipulated with one hand, while we used the smoker (when one was needed), with the other. It was rather rough to assume that we had *never* used them, for we made a very nice mouth smoker years ago, and it is carefully kept in a drawer yet. We never used it very much, for when dizzy by frantic blowing, aside from other trials of patience, we soon contracted a chronic dislike to it. Besides when one has lady visitors, how undignified it does look to poke a great knob of wood in one's mouth.

We didn't say entrances at the top of the hive, but part way up. Did you never have the entrance closed by dead bees in the spring? If it were two inches above the bottom board, this could not well happen. As bees seem much disposed to prefer such an entrance, is it not well to let them have it? Many thanks to you, and others, for the information furnished in regard to the section boxes. With such an opportunity of comparing notes, and overlooking each others failures and successes, we ought to improve some.

### SECTION FRAMES AND HONEY BOXES.

FRIEND ROOT:—I see by GLEANINGS for March, that J. I. Johnson, Palmyra, N. Y., asks a preventive of bees running the combs together in section boxes. I will tell you what I did last summer, and it worked to a charm. I had 8 stands of bees in double hives, my own make, Quinby suspended frame, 20 frames in hive. I made 100 lbs. box, 150 in sections, and 50 extracted honey. I live on a public road, and people constantly passing wanted a few pounds of honey; of course they had nothing to hold it. Well, I thought about a section box; I could get nothing to make them of easily, so I got some peach box covers and some strawberry box stuff, and ripped them up in one inch strips (I suppose you know how a strawberry box is, cut half thro' at each corner and nailed at one side, but the veneer must be wet over night before bending; it then works nicely). I then put a piece of comb in the top, 1 inch square, (would prefer drone comb if white) in some I stuck little bits of wax along the under side of top. When filled they weighed from one to two lbs. each. Only two sections out of the 150 lbs. were connected. I sold all my honey at the house, for cash, comb honey 25c., extracted 20c. I had more demand for the little sections than any other. I put the sections in the frames both front and back of the hive. I think the comb foundations for the sections, a grand hit. One hive made 90 lbs. comb honey. Besides the 300 lbs. honey, I had 6 swarms from the 8 hives, making 24 all in good order, to start with this spring. ALEX. FIDDES.

P. S.—I may say that I put sections on top, but frost came about the middle of Sept. and there was no more honey.

Centralia, Ill., March 8th, 1876.

In answer to J. I. Johnson's query on page 56 of GLEANINGS, I will say that I have used D. L. Adair's section boxes for six years. Sections 5x6x1½ inches, 9 sections in a clamp. To ensure straight comb the guide should be at least 4 inches long, or whole length of section is better. Depth of cells does not matter, as they will work straight if there are only two cells and those crushed flat, if the center ridge is left straight. If a short piece is used they will often run cornerwise and sometimes in half circles. C. T. SMITH.

Trenton, Ill., March 11th, '76.

I could have shown you Mr. Isham's arrangement in the year 1867. I did not like it then because of the projecting top and bottom. The top and bottom of mine had a channel all round, 3-16 in. from edge, to receive the ends of the glass sides, and I should now think this arrangement preferable to Mr. Isham's little nails "to keep the glass from falling in." I then made another—which I still possess—by cutting a square piece so as to form an angle like this ; 4 such posts are nailed, one on each corner of bottom. The glass is then slipped in place and the top nailed on. This makes a very neat box, but the following I like much better, of which I would send you a sample, but the description will enable you to make one in a few minutes. Cut the glass to the size required; set the 4 pieces up on end to form a box; have top and bottom ready, these should have a rabbet around the edge to receive the ends of glass, say 3-32 — thickness of glass. The top will fit into and on the glass box; now have a square hoop of light tin 5-8 wide that will fit tightly, binding all snugly together; press the hoop down half way, now slit the corners and fold the upper half of hoop over on to the top and rub it down with a stick. Now turn bottom up and serve the same way, and you will have a box equal to any. The hoop is easily pressed down just half way by having a board ¼ in. less than top, and just 5-16 thick. By having this on when pressing on the hoop, you will have half the width of hoop to fold over. But I should, if convenient, go a step further and get square glass bodies made all ready for top and bottom. I suppose you can get them from some of your glass manufacturing advertisers, or. you might cut the top and bottom off a square 2 lb. honey jar and try it. I believe there are several ways of doing this, and no doubt you know of some of them. I have seen this in some paper: "To cut a glass bottle in two. Put the bottle in any suitable vessel and pour into the vessel water until it rises to the line where you wish the bottle cut, now pour oil on the water and set it on fire: this will expand the exposed part of the bottle and separate it from the part under water." I have never seen or known of this being done but it seems reasonable, and I give it for what it is worth. In putting on the tin hoops above mentioned, if they should be a little large, a bit of paper between them and the glass will do the business; if small, hammer a little. The little rabbets are rapidly cut with a saw, but a cutting gauge does very well, and makes nice, clean work. You will observe that the square glass bodies will need no tin hoops, only get the tops and bottoms to fit into and on them and the bees will do the rest. Putting in comb guides is an easy operation. You have your tops and bottoms slit in strips of 7-8. First put a strip in top and bottom, then put in comb foundation and press the next strip in top and bottom, and press the comb foundaation between. Yours truly.

WM. H. KIRK, Waterbury Conn., March 18th, '76.

Our friend who writes first, it would seem used the sections in large frames, and we think he succeeded remarkably well if he used nothing to induce the bees to build them true in the frames. Friend Smith's remarks in regard to using broad guide combs agree in substance with what Doolittle has written, and we are much obliged to both for their timely caution. There are disadvantages in posts such as Mr. Kirk mentions, in not allowing the glass to be removed and replaced when the boxes are full of honey. A sample post having one side fastened with a glazier's tin was sent us by some friend, and by bending this single tin, any one of the four glasses could be removed or replaced easily. The square glass frame, we think could never be made as cheaply as the four flat sheets, could not well be made as perfect, and would be quite expensive on account of the risk and great bulk in shipping.

A year ago, we made the remark that section frames should be made and sold for one cent each, and when in Mich., Mr. Palmer told us that those he made did not cost him as much as that. On the strength of this, we advertised to furnish them for that amount, and afterward found we had an "elephant" on our hands. For the past month we have studied section boxes during the day, and dreamed of them at night; we have sent for sample honey boxes from every point of the compass, paid express charges on them, and then many times piled them into the kindling-wood as soon as they were once looked over. In fact, so accustomed have Mrs. R. and Blue Eyes become to seeing us bring home some new fangled honey box when we come to dinner, that they begin to look for and admire them as a matter of course; and to rejoice with papa, as each important feature was made nicer, and the process of making cheapened. Sometimes it seemed absolutely impossible to make wood, metal and glass, come into the proper shape cheaply. and still hold together strongly; but just as we were ready to give up, some short cut would show itself, or the capability of some of our machinery heretofore unthought of, would unveil itself with a flash, as if coy dame Nature were testing our patience and ability to combat difficulties, while she had a purpose of rewarding us all the time. Perhaps the success of the comb foundations, and the Universal hive, gave us courage; at any rate we couldn't give it up even if it did almost make us sick. And now to business.

Frames for hives are already in use, and there seems to be little hope of there ever being a universal frame; but as regards section frames, they certainly can be made of some regular and uniform size as well as not. In conversation with C. O. Perrine, he remarked that if bee-keepers could only be induced to have their honey stored in some uniform package, something that could be packed in such a way as to fit like bricks, the labor of the honey dealers would not only be greatly lessened, but prices received by the producer would be much augmented.

Now, not only would there be a gain in doing this, but one size of glass, etc., etc., would cost much less than if no two have anything in common. We would go still farther, and have the sections exactly square, that we might have the tops and sides precisely alike instead of being obliged to "figure" for so many of one and so many of the other. Again, instead of confusing everybody with complex fractions in regard to the size of glasses, we would simply tell the glass man to make 'em all exactly 5 inches, and then you can go to bed at night without worrying for fear there will be a mistake in your order, that will make the glass all useless. Briefly, the Universal section box is just 5 inches square, and if we ever change dimensions again, just call us "fickle-minded." As the Universal hive is just 15½ by 19¼ inside, 30 of these sections go in nicely, and one case of them just fills 4 hoops These sections we described on the cover to last month's journal, only we did not get it right side up. You need two sticks each for the sides, and one each for top and bottom. If placed together properly, you have a space between the sides just right to hold a strip of the artificial comb.

Now those of you that have had samples of these, may have noticed that they are pretty easily knocked to pieces, especially after they have been put together several times; and that although they might be amply strong after filling, they are rather frail for shipment without some protection- Again, in our varied correspondence with comb honey men, we find that to get as many pounds as possible in each section and to get it true and nice, we need the sheets of tin between the sections, as separators. We also need a good strong support for the sections, and something that will hold them just about ¼ in. above our shallow L. frames; and we want all this without occupying the space with clumsy pieces of lumber. Once more; it is quite a task to put guide combs in each one of the thirty, if they are to be put in each separately. To kill these four—or five—birds with one stone, was the problem. See how well we have done it. For the tin separators our friend Wheeler uses I. C. roofing tin—we have been told he has the idea patented, if it is we will "forgive him,"—and this tin we purchase for $8,00 per box of 112 sheets 14 by 20. We will cut a sheet lengthwise into six pieces exactly alike, that there may be no waste; now cut five inches off from each. Fold each piece lengthwise so that it will make a box 15 inches long with sides, but no ends. The folds are made so that one side is 3-4 high and the other 3-16; the shorter being bent inward as at A. fig 1.

*Fig 2*

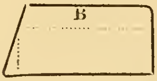
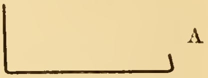


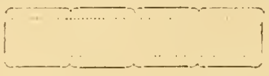
*Fig 1*



For ends to this box we pick up the five inch pieces that fell off, and cut each one so that it makes two pieces like Fig. 2. A square fold is to be made on these pieces on the dotted lines and they are then ready to be soldered to the ends of our long box. This box is to hold three of our section frames; the short fold A, pressing into the grooves in the end-pieces, and holding the bottom bar close by a sort of spring clamp, so that the case of boxes may be held any side up to put in guide combs, etc., without any of the sections falling out. To make the box of the exact length for three, we solder the ends on while a piece of board the right length is held inside. For the separators cut a sheet of tin into six pieces, but cut them crosswise; now if your pieces in fig. 2 were folded so that B, is 3-4 wide, the 14 inch pieces will catch on them nicely; but before soldering they are to be raised up so as to leave 3-8 space for the bees to pass under. We thus have all the case and separator needed, and havn't a scrap of tin to be wasted; quite an item as we happen to know. Again, a strip of foundation 15 inches long can be put into all three of the sections with greater ease than you could put five inches into a single one. If this is too expensive, use strips of plain wax sheets; these can be made very rapidly by dipping a pane of glass in melted wax, first rubbing the glass with a soaped cloth. That they will answer, has been proven, and our friends in England pronounce them just as good as the foundations. These three box cases are supported at just the right height above the frames by resting on a pair of such folded tins as we explained in our Jan. No. page 4; only we use but one on each side of the hive. They are soldered securely to the metal corners of one of the hoops, at the ends, and a strip of metal crosses the hoop in the middle to prevent it from spreading when filled with honey; the metal cases being ample to hold the 3 sections if they have a good support at each end.

Now when the sections are filled and ready for market, they can be carried just as they stood on the hive. The purchaser can have one section, a case of 3, or the whole case of 30. So far nothing has been said of glassing them; and as some discussion has arisen as to whether the consumer should be asked to purchase the wood and glass at the same price as the honey, we will use a fancy case to be slipped over the section or not, as may be preferred. This case we make entirely of glass and metal, as we want something that can be readily washed or wiped off with a damp cloth.

To have it nice, we will use bright tin, at a cost of about $2.00 more per box. Cut the sheet lengthwise into 5 equal pieces. Now by means of a pattern, mark out and notch in to them as in the diagram, and then fold them



along the dotted lines. These folds should be of such depth that when the edge is folded at a little more than a right angle, they will hold the 5 by 5 glass securely against the section. When the whole is bent around the section, the tin will make a very pretty curve where the notches are cut, and the edges of the glass will be entirely covered by a molding something like a picture frame. To hold the last corner we previously fold one end slightly out, and the other so as to make a slight hook; this allows it to close with a snap like a snuff box. To ornament it, cut and paste on the glass some honey labels printed in blue and gold, or have an ornamental label printed for it. So far we are well pleased, nay, proud of our work; but we *are not*, as yet, well suited with any glass honey box to go on the hive, that we have ever seen. Mr. Wheeler, who makes them of the strawberry box material, has a very pretty box for so small an amount of money, but the glass is not to be put on until the boxes are removed, and in this respect they are rather section frames than boxes. He has one very ingenious idea in this connection, the bees will build as close to the tin separators as they can, and get room to work, perhaps ¼ in.; well, the glass when in place comes up within 1-16 of the honey and yet never touches it, as we have been told by those who use them. Messrs. Barker & Dicer, and Mr. C. R. Isham advertise honey boxes in this No., and perhaps it would be a good idea to get samples from all.

The tools required to work tin rapidly in the manner we have mentioned, are squaring shears, cost about $35.00, and folder, at about $25.00. With the former you can cut tin or the thin wood veneers used for berry boxes, into pieces exactly alike faster than you can well count, and with the latter you can fold tin almost as fast. If you are making hives to sell, or have a very large apiary it may pay you to own the machines, but otherwise you can make some arrangement with your nearest tin smith, to allow you to have the use of these two tools. Whatever you do, be careful you do not trouble him without giving him a generous equivalent.

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Is it necessary to have the tins between the boxes as wide as the boxes? or will they answer if ½ or ¾ as wide? Will guides made as described in Feb. Gleanings, do for boxes? Will bees use them as soon as natural ones? have they ever been tried? I wish to locate another apiary. How far should it be from my old one? Will sheet iron do instead of tin between boxes? If not, is roofing tin as good as any? it is cheaper. Please don't think me too inquisitive, for I have had a hard struggle with bees for over two years. Wm. H. Balch, Oran, N. Y., March 21, '76.

The tin separators must come within ¼ or 3-8 of both top and bottom bar, or the bees may upset the whole idea by bulging the comb at these points when they are cramped for room and thus preventing the glass from going in place without bruising the comb. The thinnest tin for these separators is most desirable, both on account of cheapness, and because very thin sheets of metal are much like wood in being nonconductors of heat; we certainly do not wish to introduce so much metal into the cluster of bees as to rob them of the animal heat they generate. Roofing tin is just as good, but does not look quite so nice; it is the kind used by the York State honey men.

## WHEN TO STIMULATE.

THIS depends on what time we can expect a surplus of honey in any given locality. The time to commence is about 6 weeks before the harvest commences, and about 8 weeks before there is a plentiful flow. In our locality the middle of March is early enough to feed rye meal in an ordinary season, which is about 8 weeks before white clover blooms. in localities where basswood is the chief supply we may wait nearly a month longer. We do not feed syrup in the spring at all, unless our bees are deficient in stores, when they must be fed. Unseasonable brood-rearing is one of the causes of spring dwindling, as it is called; the bees are allowed to waste themselves by fruitless efforts at brood-rearing. As long as there are cold spells compelling them to remain in their hives two or three days at a time, they allow allow a considerable portion of their larvæ to starve, even in the strongest colonies; and by so doing waste their numbers without any corresponding increase. You will please excuse me, for perhaps I don't know anything about the spring dwindling, not having lost any bees by that disease yet. I may perhaps enumerate other causes at some future time.

Bees winter well without any pollen, if the colonies are strong, but they require flour early in the spring, though not too much until the proper time. I would rather winter them without pollen, if I could get them in good condition, (as they keep more quiet) but when in good condition they always have pollen, which is not hurtful if the hives have the right quantity of ventilation. E. C. L. Larch. Ashland, Mo.

## EXTRACTED VERSUS COMB HONEY.

BEGINNERS are almost sure to fail with box honey, whereas they are almost equally sure to make a success with the extractor; that is, they get a crop of honey, all they can use and generally some for their neighbors. It *is* true they frequently take away so much they have to feed it back, but this only gives them a more intimate acquaintance with the bees, and prepares them to get a knowledge of their habits they could scarcely acquire in the same time were they not obliged to invade the domain of the queen to secure the crop.

I see that some one in Michigan advises the disuse of the honey extr. entirely, irrespective of locality.

Now this gentleman may have a box honey locality, and be blessed with a peculiar temperature in which the bees always work in boxes, peahaps he uses a kind of box that always keeps warm inside, or he may have his bees trained to work in boxes irrespective of weather or flow of honey. But here in Canada, there was very little weather suitable for bees to work in boxes last season, and as soon as they would get started a cold night would stop them, or the flowers would cease to secrete honey and the consequence was, those that depended on box honey got little or none. One man in this place who had as many in the spring as I had, and ran them for box honey, had a lot of honey boxes in the fall with here and there a piece of comb started, and didn't get one hundred lbs. of honey from about one hundred stocks; while I, by the use of the extractor, took about twenty barrels and increased my stock to two hundred, and about thirty nuclei. Now if I had run my bees for box honey I would have lost just eight hundred dollars. So much for the extractor. I believe last season was the worst we ever had in Canada, for honey. My bees are all housed yet, the weather being very cold. I have had great difficulty this winter in keeping an even proper temperature in my bee-house (say 42); sometimes the weather is like summer, at others, below zero. I never give them a fly until I set them out in the spring. They have been in the house now about five months, and appear all safe so far, but I don't examine them much, as I think the less they are disturbed the better, until they are set out in spring. I merely watch the temperature. I will report when I set them out. D. A. JONES. Beeton, Can., Mar. 18. '76.

# Notes & Queries.

C. E. asks if he shall buy a colony of common bees or Italians to get a start with; as he says he don't feel very rich, we advise him to get the common bees.—J. L. M. asks who makes the best honey extractors. When we get over our present attack of bashfulness, will try and answer. He also asks how much mustard seed is needed per acre, what the yield is, and what it is worth. Who will tell? Also, who can furnish queens soonest. Our Southern advertisers. And how many colonies one man can attend to. One man should care for 100, make all the hives and fixtures, sell a goodly number of queens and colonies and yet keep up his number.—G. F. J. has probably been educated with an American hive, as he asks how we keep the frames apart so the bees can get between them. They are placed about 1½ inches apart and we do not want them *fixed* thus, for we wish to be able to pick up any one at pleasure. even with one hand it need be.—H. D. asks if what is called India buckwheat with a yellowish bloom is as good for bees as the other. Who can tell?—L. C. A. asks which is the better place to keep candied honey; in cellar, in an out house, or in a cool chamber. So we avoid dampness, we think it doesn't matter; with comb honey, both frost and dampness should be avoided, or moisture will collect in little drops on the comb.—D. M. D. asks if we advise rock candy for stimulating, and how much. Depends on size of colony. Give them an ounce or two per day, and keep it up until they get so much that it appears to be in the way, then a little less.—L. C. L. asks if bees will do well, if their hive entrances are set any other way than south. It makes very little difference to the bees as may be seen where they are set all sorts of ways. We advised them thus, principally to accommodate their owner.

How about wax made from the residuum of oil, will it do? Cheap, plenty. Who knows? P. T. ROLEUM.

If you mean paraffine, it is our opinion that it has already been tested, perhaps by many unawares. It is as wholesome as wax, whiter if anything, and the bees are not a bit particular if we only add something that will prevent it from melting down in hot weather. Pure paraffine melts at about 112°, white wax at about 155°; possibly a very clear white quality of rosin, worth about 1 cent per lb., will answer. Who will prove it a success before we do? Mr. Perrine declares he shall use nothing but pure bees wax.

## Obituary.

Our brother Wm. Harrison Jr., who has for years been a subscriber to your journal, died of apoplexy, on Christmas morning, his 26th birth day, sixty hours after the first attack. He was much devoted to the bee business, had followed it more or less for eight years. He was with Mr. Wilkin some five summers, and shipped his bees to Iowa. Correct and upright in all his habits and dealings, he leaves us only to regret his early death.

HILBERT HARRISON, Hopedale, Ohio.

Gleanings in Bee Culture,

**Published Monthly,**

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

**Terms: $1.00 Per Annum.**
*[Including Postage.]*
*For Club Rates see Last Page.*

MEDINA, APR. 1, 1876.

And now abideth faith, hope, charity, these three; but the greatest of these is charity.—1 Cor., xiii, 13.

EVERY day we have a snow storm.

BUT if the weather *is* boisterous, it is no reason why our readers should be so.

ECKERMANN & WILL, wax-bleachers, offer 33c. per lb. for yellow bees-wax, in lots of from 50 to 5000 lbs., delivered at Syracuse, N. Y.

WE can furnish comb foundations at the prices quoted by Mr. Perrine. Shall we do this, or return the money that is being sent us daily?

WE hope we shall not be obliged to apologise for some error every month, but the last thing we did was to send out five pieces of wood for the sample section boxes, instead of six.

A UNIVERSAL hive complete, and one of our honey extractors will be seen at the centennial. No fancy finish is to be put on them, they are to be only plain common work, just such as we use, and send out to our customers.

WE forgot to say that the bees will probably work straight in our boxes without the guides, for they can attach the combs to nothing else than the narrow top bar, very well, and the tin separators will then compel them to carry them down exact. The ordinary quilt covers the openings above

IT will be out of the question for us to think of rearing queens for sale this season, with the amount of business now on hand. We must refer you all to our advertisers; if you send to us we shall have to hand your order over to some one as near you as practicable.

THE price of GLEANINGS is $1.00. If we should send it a year to those who after this date send only the old price, 75 cents, we should be wronging those who have paid a dollar; therefore, 75c only pays for 9 months hereafter. You wish us to be impartial, do you not?

IT is our opinion at present, that our criticism of Mr. Perrine in our Feb. No., was rather a harsh one; and although we cannot promise to satisfactorily arrange matters with all parties, we would be happy to receive a brief statement of all complaints against him. In several cases in our own vicinity, he has paid up old accounts not only fairly, but liberally, for honey lost during the Chicago fire.

EVERY few days we find some individual laboring under a mistake that costs him more than the price of all the Journals, yet he remarks that he cannot afford to subscribe. They send their money to untrustworthy parties, pay more than the market price for things, keep their honey on hand unsold, or sell it at half price, and sometimes pay traveling sharpers for patents that have been public property for a year or two.

* * *

Do you remember what we said last season about the bees building comb so persistently between the frames in the upper and lower stories? Well, this season we can accomodate them by by putting a case of section boxes between the two stories. This is one of the beauties of the hoop hive; if desired, we can extract from the upper set while they are at work in the boxes. If it stops work in the boxes as Mr. Doolittle says, we will stop doing it, that's all.

* * *

A MORE lengthy trial of the two buzz saws mentioned last month, shows that the one made by the Combined Power Co. has, after all, some very decided advantages over the Barnes saw; particularly in sawing very thick stuff, of short length. By treading the machine up to speed, the balance wheels accumulate power enough to do considerable heavy work, even after we stop treading entirely, but it takes time, of course, to accumulate this power. Each machine will have its favorites, and as the little one requires almost no practice to work it successfully, it will probably please best on a short trial.

* * *

So much complaint has been made of our small type, and the way in which we have crowded so many words into a line, and so many lines into a page,—trying to give you the worth of your money,—that we have consented this month to have all the small type leaded, that is, have the lines placed a little distance apart. We dislike this because it prevents us from hearing from as many of you each month, and perhaps also because *our* eyes are good enough for the smallest type used. As we wish to conduct GLEANINGS as far as may be, according to the wishes of those who have chosen us to conduct it, we would be pleased to get a kind of vote on the matter. Tell us on a postal what you think about it. We can't put in any more leaves for $1.00.

* * *

YOU can make sheets of wax as thin as paper, and very rapidly; and for that matter we believe you can if you choose. make the same of a composition of wax and paraffine at a cost, it is said, of not more than 25c per lb., while white wax is nealy 60c., and *then* you are never sure of its being pure unless you make it yourself by the old plan of sun bleaching. You can cut these sheets into strips with a pair of shears or with a knife, if you keep the cutting parts wet with thick soap-suds. Now, our sections are made just right to hold the comb foundations, and the opening is therefore too wide to hold these thin sheets. As there are but ten strips to fasten, to fill the whole thirty boxes, it can be done quite rapidly with melted wax, or with wax dissolved in benzine. With the latter you are obliged to let them stand for the benzine to evaporate, before handling them. There is another way we like very well, and it answers for bits of comb or any kind of guides, if they are held in such a way that the bees cannot roll them over. It is simply to invert the whole case of boxes or sections, and then lay the guides where you wish them put them on the hive thus and the bees will quickly stick them fast. You can let them got fairly at work, with them in this position if you choose, and then when turned over, the bees will be nicely started on all the top bars. The Italians seem particularly to fancy this way of working. With one of the methods you are obliged to fuss with wax; with the other with bees; take your choice.

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### THE COMB FOUNDATIONS AND THE WAGNER PATENT.

When inclined to censure any of the parties connected with this business, we find it a very good idea to read the chapter on charity from which we take our text this month.

Briefly; Mr. Weiss sent us some samples over a year ago as we have mentioned, but we then paid little attention to the matter more than to admire and test them, and afterward when Mr. Long wrote us in regard to them we rather threw cold water on his enthusiasm of building up a large trade on them. And it is due Mr. Long to say here that the credit of making the public take notice of them is to placed to his account, even if we can not approve his using an assumed name for the purpose. We supposed he used plates for making them, nor can we understand yet why he refused to make them more than 16 inches "long"—unless his name has something to do with it —if he and Weiss had rollers, as it has recently come to light they had. We certainly knew all about the Wagner patent, but as it was nearly run out, we, like every one else, supposed the owners of it would make their wishes known if the experiments of last season ever amounted to anything. Just as our machine was fairly in shape to fill orders, we received a visit from Mr. Perrine, and a right pleasant visit we had, even if it did result in stepping a work that we had fondly hoped would be of great benefit to bee-keepers. It was a privilege to have a good long talk with a man who has had such an experience with the honey trade of our country, even if we did not quite agree on some points. The result was, that he paid us our advertised price for our rollers and the white wax we had purchased to work up. As he paid Mrs. Wagner her price for the patent—we believe the money came to her at a very acceptable time—of course we could not do other than respect his preference to supply the entire demand for the article himself. There are several morals to be gathered from the result of all these changes, and I beg in making your deductions you not only exercise charity towards your fellows, but remember also the golden rule. We subjoin the two following notes:

I have bought from the widow of Samuel Wagner, his patent, covering the manufacture of *all Artificial Honey Comb Foundation by whatever process made*, and I have given notice to those who have been infringing the said patent, and do now hereby give general notice, that I shall enjoin its further manufacture by any and all parties in the United States, and its use, except that which is made and sold by myself.

Mr. Weiss, the original inventor (invention and making of first machines dating back nearly two years) of the Rolls for making said Foundation—the only practical mode of manufacture—is in my employ and I have in my possession and am using the machine that he formerly used in New York, on which he made the Foundation sold by John Long and E. C. Hazard & Co., also the machine gotten up by Mr. A. I. Root, which I have purchased of him, and which has been lately much improved in making greater length of cells.

Only worker comb is made at present, 25 cells on each side to the square inch, and there is material enough in the thick shallow sides of the cells to lengthen them out and probably cap them over. The only really perfect Artificial Comb Foundation ever made. C. O. PERRINE.

MR. EDITOR:—I would like to state in reference to the patent taken out by my husband, the late Samuel Wagner, for the manufacture of Artificial Honey Comb Foundations, that Mr. C. O. Perrine, of Chicago, wrote to me asking for an individual right to make and use the same, and I answered by saying that I did not wish to sell individual rights, but would make him a complete assignment of the whole patent for so much money, cash. Mr. Perrine came here and paid me the price asked without trying to get it for any less. Others have infringed the patent for some time, but have never offered to buy it, probably knowing my age and circumstances would not permit me to prosecute them.

I write this to give a moral weight to a reason why all persons who wish to buy the Comb Foundations should get them of Mr. Perrine, as there may be those who will still infringe. ELIZABETH R. WAGNER.

York, Pa., March 23d, 1876.

# Heads of Grain,

## FROM DIFFERENT FIELDS.

THE most extensive bee-keeper in our part of the country, remarked a short time since, (when I told him of your new hive), that he believed you had a new hobby every 6 weeks. After lending him my file of GLEANINGS for 1875, and doing a little talking, I think I have got him into the right channel. I am young, both in years and the bee business, but my success last season (thanks to GLEANINGS) was such that I think I shall try it a little more extensively this year. I started last season with only 2 stands of bees, and those not very strong, increased to 15, took from them 550 lbs. ext'd. and about 200 of box honey. Now if I *did* send to you last season for a Standard hive, and had to pay $2. freight charges on it, and then never made any like it, it is no reason why I should not send again this spring for another hive, simply because you think it the best. I am child enough to simply take your word for it, without asking any questions. A. CAMPBELL, Warsaw, Mo., March 10th. '76.

We *do* beg pardon for so many changes, but when any branch of industry is progressing as is bee-culture, there must be changes That we are progressing may be seen from the above report, and we have more similar ones than can possibly be published. These reports too, come many of them from new beginners The Universal hive and section boxes grew out of the developments made last season with the artificial comb, and what more may be made this season we are at present unable to foresee. The Universal hive is a success so far as being well adapted to holding almost any frame in use, is concerned, yet it can be packed in so small a compass, that we are today packing a two story hive inside of an L. extractor. As both are going to a subscriber in Texas, the saving to him in freight will amount to several dollars.

Mr. A. ROOT, *Sir*:—I had 16 stocks of bees last fall and have now only 11. They were on summer stands, no disdisease, died from lack of food alone. Last summer was a very poor one for honey, the worst I ever witnessed in my life and I am 67 years of age. I have kept bees since I was 19 years old. Have been keeping bees for four years in North Wales, in straw hives and have made 7 sovereigns in the four years from two stocks. The last year I had 21 stocks of bees. I have tried four different patent hives in this country, Langstroth, American, Eureka and J. R. Allen's. I have now discarded them all but the Langstroth. I can get more honey from L. shallow frames, and they will winter as well as deep frames, on summer stands. I have 8 stocks in L. hive 12 inches deep. Would you advise me to cut them down this spring? for I wish to have them all in the shallow frames.

WM. ROBERTS, Vaughnsville, O., March 21st, '76.

We would certainly cut them down so as to have all alike, and while you are about it get them into the standard L. size if you can. For comb honey this frame is destined to supersede all others in our opinion, and it is very desirable that they are all made of one exact size.

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You did not seem to get the right "flavor" of my remarks, in Oct. No. I hold that honey should stand in the hive about two weeks to get good flavor, if it s thick when gathered. WM. H. S. GROUT.

Poland Centre, N. Y.

I am quite gratified to know that you have near 1500 subscribers to GLEANINGS. One half of it is of no use to us here, but it is the best we can do; we need a department for California, or else a whole paper ourselves. Our County Bee Keeper's Convention agreed unanimously to adopt the Langstroth frame, and the Harbison section honey box, although most of the honey here is taken with the extractor. I furnish all the new extractors.

R. WILKIN, S. B. Ventura, Cal., March 15th, '76.

You have already quite a bee department in the *Weekly*, given this month on our cover. Very glad indeed to hear you have decided on the L. frame. Long may it endure.

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I tell you it was fun by the bushel for me, to think that you, A. I Root, editor of GLEANINGS, should make such work getting your bees out of the house. Don't wonder folks wanted to know if the bees were swarming. Bees have wintered well in this region. S. M. HOLCOMB.

Grand Haven, Mich., March 20th, '76.

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Please send me circular of honey extractors, also any information in regard to this method of putting up honey. I have an apiary in this county and have been putting up comb honey exclusively, in Harbison's hives. I want to try the extracting business, and others here are thinking of doing so. We put about 400 tons of honey in market from this county the past year, and the yield will be much greater this year. The market for comb honey has not been satisfactory. CHAS. J. FOX, County Surveyor.

San Diego, Cal., March 2d, '76.

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I have been keeping bees for years. I found a swarm in the woods, and from them I have about 120 hives. I wish to Italianize them. I have the box hive, open at the top, with slats across even with the top of the hive, a honey board on in the absence of honey boxes, and a cover over that. With such hives, can I be successful with Italian queens? I also want to know something about shipping bees. I want to send a few stands to Denver, Colorado. When is the best time? and how would you pack them? I had thought of sending just the body of the hive; taking off the honey board, tacking wire cloth on top and bottom and sending by express. J. M. DAVIS.

Milford, Del., Feb. 17th, 1876.

You can Italianize your bees in such hives but there will probably be much loss and vexation. You will have to drum out the bees to get your black queens, and then if they should take a notion to kill the queen introduced, and rear another black one, you can not well help yourself. We think it will pay you to get them into some kind of a frame hive, even tho' it be a cheap one. Ship the bees at any season when it is not very cold or very warm. The plan you have mentioned for such hives as yours, is probably as good a one as you can have; for every one could see and hear that they were "bees," and they would be handled accordingly. They would also be sure to have abundant ventilation.

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My 4000 lbs. of honey advertised in GLEANINGS, was all sold long ago. *Thanks to* GLEANINGS *for it.* I ask no premium for the name I sent you, and hope to get a good many names for you on the same terms. I still feel much indebted to GLEANINGS. M. E. McMASTER.

P. S.—My 36 swarms have all come through good and strong. Bees generally begin rearing brood in this section by the first of Jan. Commenced carrying in pollen Feb. 11th, this year. M. E. McM.

Shelbyville, Mo., March 8th, '76.

I have sold my crop of extracted honey, which was about 3000 lbs. Could sell much more if I had it.

O. H. Townsend, Hubbardstown, Mich., Mar. 14, '76.

I have wintered most of my bees out-doors this season. Every colony, (of over 120) is alive yet. Some 40 in cellar, seem to be in good condition. J. E. Crane.

Bridgeport, Vt., March 7th, 1876.

MR. A. I. ROOT: —In February, about the 10th I think, I put rye flour into wooden feeders, and set them upon the frames immediately over the cluster. A coffee sack filled with hay, was pressed down into the cap. I examined 13 hives to-day, and find that seven have worked upon the flour, they take it clean as far as they go. They have plenty of honey yet. I gave them loaf sugar to-day, to pet them a little you know. I have never had bees work very much on rye flour out of doors. Any day that is warm enough for them to work in the open air in the spring, they can get pollen. The river overflows the bottoms, taking out the frost so early that the willows are soon in bloom. Don't think it pays to raise queens for a dollar, and have to *catch* and mail them to boot. Bees carried pollen splendidly Saturday, March 11th, tumbling over each other in their hurry. Mrs. L. Harrison.

Peoria, Ill., March 13th, 1876.

Are you sure Mrs. H. that the bees used the meal instead of simply tumbling it down on the bottom of the hive? We have tried it many times but never succeeded. We think raising queens for a dollar can be made to pay quite well, especially if one has spare time that can be devoted to such business. While one is learning, he must not expect very large wages, and if we can have the needed out-door exercise, and at the same time get even *small* pay, is it not encouraging?

I have 16 stocks of bees which I am wintering in an out door cellar, built up with logs, arched over and covered with straw and dirt. The temperature in it has not varied more than 3° this winter. There has been no weather in which bees could fly, since the 23d of December; the thermometer then stood only 58°. At what temperature can we, with safety, put bees out for a fly? I had to furnish one late swarm with stores, and don't think they have a cell of pollen at the present time. It is too cold to feed meal; what shall I do? D. Gardner.

P. S.—The temperature in cellar has ranged from 40° to 42°, is that right?

Carson City, Mich., March 7th, 1876.

If you can keep them quiet in their cellar, don't put them out at all, even if they *have* no pollen. If the weather is such that you can keep them in until April, or later, we are inclined to think it all the better.

What is your charge for 50 feet of lumber cut into lengths (5 inches) and grooved, ready for ripping into honey section stuff? I can have the same shipped, at but small cost with my regular spring order. The ripping I want to do myself, on one of the foot-power saws. I wintered 108 out of 111 hives this season, a number being four frame nuclei. For prudential reasons, doubled up (or down rather) to about 100, about 90 of which I have now breeding nicely.

Judging by my own case, your last Gleanings has turned the heads of your subscribers on "saws," while at the same time it has dissipated the fond dreamings of many of them at least, as to their ever becoming possessors of the comb foundation machine. I know of no alternative but letting you run off miles of it at 75 cts.

J. S. Woodburn, Dickinson, Pa., March 16th, '76.

As the section boxes must be made of stuff free from knots, the lumber will cost about 5c per foot. Athough our four saws do the work nicely, they work rather slowly—the stuff having to be pushed through several times to get it clean and accurate. Our price at present, will be at the rate of 6c per square foot for the lumber ready to rip up. A square foot will make about 25 boxes.

We should be very glad indeed to be able to turn the heads of our readers toward all paths of honest industry, but may God forbid that our influence should ever turn them otherwise. Alas, that our fond dreams of miles of perfect worker comb for our own apiary and those of our readers should have been thus rudely destroyed by inconvenient patents.

I have two swarms of black bees in box hives; one ditto in Quinby suspended; and had one more that I Italianized last fall; though a nice healthy one, it actually *starved* out since the middle of February, at which time, they with the others were out for a fly. Of course I am sorry now that I did not better look after them.

I notice by your February No. that you now vote for loaf sugar as a bee feed. Do you mean that they will *store this in their cells* in case we feed it in the fall for a winter's supply? S. R. Leonard.

Wallingford, Ct., March 10th, '76.

To be sure they will store the sugar in the cells; and permit us to remark right here that this question, like a hundred others could be answered quicker and easier by putting some lumps of sugar over the cluster of your starving colonies, than by writing to your editor. We have dozens who discuss and theorize over a matter, where we have one who will go right to work and make practical experiments. You probably had seen what we put in the Feb. No. about sugar before your only Italian colony starved, and yet friend L., you ask us to "tell through Gleanings," etc. We are very sorry to hear of such losses, and if it will afford any relief to the suffering ones, on the ground that "misery loves company," we will say that the past winter has been such that an unusual amount of stores has been consumed, and those who never lose by starvation, have been obliged to admit that their bees *starved* and nothing else. Even bees that were put in the cellar seem to have fared much the same. If we can only learn a good lesson from it, it may not prove a loss in the end; one very important fact to be learned is that because one hive will winter safely on 10 lbs. of stores, it is really no proof that others will. Colonies that seem about the same in strength frequently consume 15 lbs. and then starve. There is danger, even when this reaches you, and if you do not go over them all, at once, and see that each one has an abundant surplus of lumps of sugar or sealed stores of some kind, you do not deserve to succeed. If you are going to choose us for your teacher, *get about feeding this minute.* If you use smoke, you can feed them sugar even after dark; just tumble the lumps right down among them. Maple sugar does tip top if the loaf lumps are not handy. There is very little danger of their having too much when they are rearing brood rapidly. Now please don't let any of your bees starve in April; if you are ever so busy, you can attend to it in the way we have indicated.

FRIEND NOVICE:—Am inclined to think if you had set your bees out regardless of numbers, you would not have had that bad muss in your bee house, nor would the bees that clustered on their old stands have been lost. They will enter any hive without molestation after being confined in the same room. At least that is my experience. I one spring set my bees all on new stands four rods from the place occupied the previous season, and met with no loss.

If you had tacked musquito netting over the front of your hives you would have had no dead bees on your floor, and more live ones in your hives; for when dragging out their dead they fall to the floor with them and are lost. Since using the netting I sometimes find banks of dead ones against it.

Friend Doolittle is right in the main, in regard to extracting from brood combs, but there are exceptions; some bees are very perverse. I had two colonies that would not store in the upper hive, but would fill the lower story so full that the queen had no room to lay. I several times found the queen occupying but a part of three combs when honey was coming in abundantly. The rest was filled with sealed honey. What could you do in such a case but extract? They did not swarm.

Would not brimstone bleach wax? That is what they use for broom corn, straw, etc.

When you get your metal rollers in working order and the wind mill hitched on, we expect you to turn out foundations cheap. Shall want a few yards then. Would like to melt my drone combs and transform to worker, for they are a nuisance as they are. The queens will go above and fill them with eggs which makes work for the bees to hatch, and me to kill them. Enough were slaughtered last season to make several good colonies if they had been workers.

Have had an uncommonly warm winter here, and no snow to speak of. The cellar has remained at a pretty even temperature, not going below 36° nor above 48°; and the bees are as quiet as you could wish. Don't you believe a cellar is just as good a place for wintering bees as has yet been found?

J. L. WOLFENDEN.

Adams, Wis., Jan. 7th, 1876.

It is true that the bees will usually be well received in almost any hive under such circumstances, but as ours had just about the right number in each, we did not care to have them mixed up. We have seen good stocks lose so many bees in this way, as to injure them seriously. Besides, we can not feel that it is pleasant for the little fellows to be turned out of their own home and made to take up with some other. We used wire cloth on the front of the hives one season, but thought there were about the usual quantity of dead bees, only they were all kept in the hives. If you take good sized pieces of comb for guides in the boxes, especially new comb just built in the body of the hive, as Doolittle does, we think you can make them work in the boxes. Brimstone will not answer for bleaching wax, as it makes it brittle, and we are inclined to think that even sun bleaching has a tendency that way. We are very glad indeed to hear your experience with drone comb in the boxes, for the question now before us, is whether a pair of rollers to make drone comb is also needed. See friend Moore's remarks on another page. This past winter has shown pretty conclusively, that a *dry* cellar, is the best place to winter bees unless they are in a house apiary.

### A WORD ABOUT COMB FOUNDATIONS.

Last September, I did send Mr. Long ten cents for a sample comb foundation, and by return mail received a sample 3x6 inches, made of yellow wax. I cut the piece through the middle, fixed one piece in a small box and put the box on top of a hive. The bees rushed into the box as if they were astonished to see such artificial comb. I left the box on the hive about one week, then took it off and found it in the following condition:

The cells raised out a little and the wax as white as snow. I think you need not trouble yourself to bleach the wax, for the bees can do it themselves. I will keep the two pieces for a sample.

D. N. KERN.

Shimersville, Pa.

We were prepared to expect something of the kind but not that the wax would be perfectly white. In our experiments of last fall, we found the yellow wax to be yellow still, even when the walls were raised into full depth cells. We shall very soon give the matter a careful test.

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DEAR SIR:—Feb. GLEANINGS came to hand yesterday. With regard to comb foundations, these until very lately, have been supplied here solely by Messrs. Neighbour & Sons. For the thickness of them see my Manual, page 100. The bee-keepers of Scotland have for some time made their own sheets, and formerly used to fill (or nearly) the frames; but found the bees elongated the sheets so that they had more material than they knew what to do with, consequently the sheets became baggy. Now, I believe no one gives more than a few inches of sheet. Mr. Cheshire now makes his plaster block by a cast from natural comb. I have used a block now before me, the cells are much deeper than a cast from the plate, but I am not yet a believer in their superiority. I will make some experiments in this direction soon.

Seeing your note that bees frozen for 24 or 48 hours were dead, I doubted it; so froze 6 for 48 hours—*none revived*—froze 10 for 36 hours, *all* revived—froze them again immediately for 12 hours—9 revived. I mean to try 48 hours again as my unlucky 6 were scarcely a fair sample, having been frozen before, as were also the 10. I give bees credit for more vitality than you do—but we shall see! I have some observations maturing on frozen or torpid bees.

Pollen or larvæ food I have an observatory hive that since Nov. (early) has had no brood, but bees have consumed all (a fair quantity) of its pollen. Query: for what? I have another stock, Dalmatian bees, that has had *no pollen*, yet has bred all the winter. On Christmas day had brood of all sizes; if pollen is so necessary as generally believed how can we account for this? The queen of the first hive laid three eggs yesterday; my intention was to see if they would rear without pollen, but found this morning the eggs gone although some more were laid; so I yet hope to decide the point.

Yours, JOHN HUNTER.

Eaton Rise, England, Mar. 6th, 1876.

We think it very likely that an inch or two at the bottom of the comb *may* be advisable, but as we have beautiful combs now in our apiary that were built on sheets that filled the frames, we know they are not always baggy. Having the walls of pretty good depth, and pretty thick, we think will have something to do with it. The plan of freezing bees up in the fall, and thawing them out in the spring, we predict a failure. The queen will lay, and the eggs will produce minute larvæ without pollen, but in our experiments we have never been able to get the larvæ old enough to seal up without pollen.

We have been asked to express an opinion in regard to the following:

### CRUSHING GRAPES FOR BEES.

A correspondent of the Solano *Weekly Republican* recommends the feeding of grapes to hogs and hens, both of which proved very successful, fattening the hogs and making the hens lay. He says: "My experience in feeding the juice of the grape to bees has been more limited, as I had but nine stands, and of less definite conclusions, but of this I am fully convinced by the great quantity transferred to their hives, that in freshly expressed grape juice the trouble of the apiarian is solved as regards forage for his bees. My wife's uncle crushed from twenty to thirty pounds of grapes daily during the grape season for our bees, and they stored it all in the shape of honey, except the hulls and seeds, and that made excellent food for hogs. The honey made was of a purple tint, but of most excellent flavor, comparing favorably with the much esteemed white clover of the Atlantic States. Here again is another source of profit by the cultivation of the grape.

We have no reason to doubt the statement, but would suggest that it may be a safer experiment, so far as the health of the bees is concerned, in the climate of California, than in our own. Even if it is a success, would it not pay better to sell the grapes, than to go to so much trouble?

EDITOR GLEANINGS:—One question, please, in regard to drones from unfertile or drone laying queens. Are such drones capable of fertilizing virgin queens?

This to me is an important question, since I have a fine virgin queen that I reared last October from one of Mr. Dadant's imported queens, and have brought through the winter thus far, for the purpose of raising early drones, (of which several are flying to-day), but to my chagrin here comes one Mr. J. M. Hicks, publisher of the "North American Bee-Keeper's Guide," and says—in speaking of drones produced by a virgin queen, "I hold it as a fact that all drones that are thus produced are wholly worthless; and are a perfect set of neuters, neither male or female." (Page 58 of his work). But if he reasons from nature alone, may he not be in error in *this* as in the following which he assumes to be true? chapter 6, page 46 of the same work, he says, "It is essential from the creation up to the present time, that all created beings in all nature have two parents, a mother, and a father," which *can not* be true of my drones, they being the offspring of a virgin queen. A. B. KEEPER.

On page 146, Vol. I, *A. B. J.*, a record is given of a very careful experiment made by the Baron of Berlepsch, showing that such drones *are* as good as any. Since then there has been much arguing over the matter, but very few practical experiments. We suggest that you give us the result of your experiment. The work, or pamphlet rather, that you mention savors too much of the Mitchell style to be considered authority on any subject.

I have not sold all my past season's crop of extracted honey as yet, but have sold one grocer in our county town five and one-half barrels. That is pretty well I think for a home market. J. F. LOVE.

Cornersville, Tenn., Feb. 23d, 1876.

A neighbor has found a stone weighing about one pound, which looks as if it had once been a piece of comb honey broken and doubled over. It presents the cells in different shapes. R. S. BECKTELL, New Buffalo, Mich.

The stone is without doubt the work of a species of the coral insect. We think geologists agree that honey comb has never as yet been found in a state of petrification; yet many specimens like the one you mention, so much resemble it, as to be usually termed petrified honey comb.

I see from your January number, you think bees separated from the cluster won't stand a hard freeze. Now I want to tell you that a young healthy bee, full of honey, will lay in the snow fifteen hours with the thermometer at zero, and then if taken into a warm room, will come to life and fly about the room. This I have known by actual experiment.

If our friend had stopped there, we might have thought it possible his bees would survive a zero freeze, even if ours do not; but he "puts his foot in it" so badly in his next, that we fear he has made some big mistake all round.

On another point I disagree with the big bee men. It is said that queens fly out, or mate with drones but once in their lives. I have seen the same queen fly out three times in one week. Whenever you see your bees agitated and flying out and in the the hive, you may know that the queen is on the wing. And it is surprising how soon they will quiet down when the queen passes in. Also, I think I saw a queen that mated with a drone the second time. A neighbor had a stand of black bees; he fed and watched them very closely, and in the spring noticed they had no brood; he feels sure it was the same queen that he got with the swarm, yet after the early drones began to fly, his queen commenced laying and the young bees were hybrids. Did she meet an Italian drone?

J. R. LEE, Oxford, O.

It may be difficult to tell just how the latter state of affairs came about, but we can rest assured, that a queen reared in the fall is never fertilized at so late a date as the spring following. Young queens often get into the wrong hive, and sometimes are accepted, and the reigning queen killed; this might account for the case mentioned, or their queen might not have commenced to lay until quite late, as sometimes happens. Thousands of careful bee-keepers agree that laying queens never leave the hive unless it is to lead out a swarm; while once in a great while some one, who we fear is *not* a careful observer, claims that he has seen them flying out as you mention. Of course we do not doubt your word, friend Lee, we only think you have made a mistake somewhere, just such ones as we often make. The worst part of it is, we are all very apt to be so positive *we* are right that we fail to examine into the matter closely.

How much alsike clover seed is required per acre? How much seed per acre is a fair crop? Is it difficult to clean? About what can be obtained for it at wholesale? L. BECKWITH, Berlin, Wis.

About four lbs. per acre is required for seed. The yield is quite variable, but usually about the same as red clover. It is very much like red clover in its habits, and the operation of cleaning is about the same. A good clean article of seed sells readily at from $12.00 to $15.00 per bushel, and the demand seems to increase faster than the supply of seed. Black bees work on it as readily as the Italians and the honey seems as accessible as that in the common white clover.

I had 10 colonies last spring. I built up to 22. Extracted about 400 lbs. honey. Sold some queens and Italianized all my colonies.

T. M. MCKEHAN, New Bloomfield, Pa.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," and have a friendly chat and feel "at home."]

## CHAPTER XIV.

BEFORE dropping the subject of sidewalks and underdraining, I beg to consider a matter that has something to do with both, and besides its bearing on the health of all members of the family, has more to do with the comfort, especially of the little ones, than almost any other one item. I refer to the little structures that usually are given a place in some obscure part of the back yard, or garden, and which I verily believe no one ever mentions, looks at, or even thinks about, if it possibly can be avoided; unless it be some juvenile or childish prattler who has not yet learned there are forbidden topics, and who, despite mamma's repeated gestures of caution, *will* talk, and then open its innocent eyes in wondering inquiry, as to why such an affair of every day life should be so studiously avoided. I can not think it should be avoided, when if all members of the family would give it a faithful and honest consideration, so much real good might be brought about. Are these structures well enough as they are? Look about you and see. Not only when you are visiting your friends, but take careful notice of their condition at our hotels, at the R. R. stations, on the cars, on board our steamers, and go almost where you will. Money has been expended on them it is true, and the proprietors many times have evidently gone to work with a determination to have them models of neatness and—sweetness; but alas, if you have visited the place after a lapse of only a year or two, you may be obliged to think that it *is* impossible for a public place of the kind, to be kept entirely free from bad odors, etc.

Carlyle is said to have made the remark that if every man would reform himself, there would be one less rogue in the world, and I am very much inclined to think that in this matter, if we would all commence a reform at home, our traveling public would sooner or later feel the effects of such reformation, and the number who can ruthlessly consent to bring careless habits where they do so *much* mischief, we think would certainly decrease. Our people do not mean to be unkind or to make trouble, it is only because they are thoughtless; and at home is the very place to teach them to be thoughtful of the rights of their fellows. As I have often said before, we do not want money to commence these reforms, we only want to set to work at once and make a good use of what is in our own door yard.

I would like to give a description of the two extremes, as I met them within a few days of each other; but an account of the first, I should not dare to even put on paper. I would not by any means advise a false modesty that would deter one from taking right hold, without gloves, of any kind of work that needs to be done, but I *do* declare it to be an act of absolute cruelty, that forces a child or one of the weaker sex to enter such a place. It hardens children to scenes of filth and uncleanliness, in a way that may explain why grown up people sometimes seem to be almost destitute of a sense of delicacy in such matters. Ye fathers and brothers, think of your daughters, wives, sisters and mothers, and think how much you could add to to their comfort by removing all unsightliness, and fixing up these too often, rickety structures.

The model I have referred to, was built in connection with the wood-house, and the floor was perhaps 6 feet feet from the ground. On entering the closet one found themselves in a very pretty little room; I think, but am not sure, that the window was curtained, but I *am* sure that a very pretty picture neatly hung, added very much to the home-like appearance of the place. Near the floor was a little sliding door, and when this was opened, a little recess was seen containing a little wooden shovel, and a small heap of dry dust, just such as we see in the roads in summer. When a shovel full of dust was used another came down from a hopper full, placed in the woodshed. As we were curious to know just how well this dry dust answered the purpose, we pried inquisitively into every suspicious place to see if there really did lurk no odor to indicate the nature and purpose of the building. Nothing of the kind; the dust did its work so effectually that I do not know how more could be desired. As the room was really a part of the building, there was none of the usual necessity of going out through wet, damp grass during rainy weather, etc., to say nothing of its convenience during the winter season. Now then, if your garden house or by what other name you may choose to call it, is located and must be kept at a distant part of the premises, please do make a good walk to it, and if the door is hanging loosely or the boards are coming off, or there are huge cracks that allow the snow to drift in, by all means fix them. At about the time we did our underdraining we found on our new premises one of the ordinary tumble down affairs with no roof but some broad boards that had almost succeeded in rolling themselves up into a scroll, and boards for the sides had pulled most of the nails out in their attempts to follow suit. At first it was thought advisable to have it burned up as useless rubbish, and to build a better one; it was decided that unfortunately, we had no money to invest in such a structure as seemed desirable, and much against our inclinations we set about making the best we could of the old one. It was rolled over until somewhat nearer the house, and then set up square and level over a capacious vault prepared for it, we then took off the roof boards, turned them over, and made a respectable looking roof of a bunch of cheap shingles. A bundle of lath served to batten all the cracks, and to make it all of one color, we gave it a good painting with a whitewash brush, and a paint made of milk and water lime; this makes a very pretty stone color, and has stood the storms of 10 years very well indeed. Some scantling and bits of board, made a narrow but comfortable walk to the wood-shed door, and as it is raised slightly above the ground it is but a slight task to brush away the snow the first thing in the morning before the juveniles have made their appearance. Again, by having it located near the door to the wash room, it is but the work of a few minutes to take broom and soap suds and make the whole interior sweet and clean. Is there no danger of foul odors during our dry hot weather? Certainly not if you use the dry dust, and if too much trouble to collect this, use the ashes from the kitchen stove. If your soil is a dry one and the vault deep, there will be little danger of any thing of the kind in any case, especially if the earth is well banked up around the outside. The part of the subject relating to the disposition, and value of the compost formed by using the dry dust, we shall turn over to our agricultural papers; but there is one item that vividly concerns every one of us. Any one who has worked at underdraining will have seen that water finds its way through the soil to drains, even though they be only 2 or 3 feet in depth, and as much as 20 or 30 feet distant. If a drain, or even an open ditch be examined in the vicinity of a privy vault, it will be seen that the water has become tainted; and even its having leached through several feet of earth has not made it free from this taint. Now the vital question is, are our wells and cisterns, so far away that no contaminating influence can possibly get into them in this way? They are many times the depth of the underdrains, and therefore should be many feet distant, not only from the privy vault, but from the drains that lead from the sink; cellars, etc. Having the well or cistern plastered with water lime is some security, but I fear not a perfect one, from some observations made. So many stubborn fevers have of late been traced directly to such sources, that physicians are now giving the matter much attention, and the consequence of carelessness in such matters has been shown to result in the worst forms of typhoid fever.

## CHAPTER XV.

AFTER we have got our walks built, our ground underdrained, the yard slicked up clear of all rubbish, and every thing tidy, it will be a very good time to think about trees and shrubbery. Although these are very good in their place, too many of them are very apt to become rubbish, and a few well cared for, will give much more pleasure, than a great variety, or too many on a small piece of ground. Who has not admired a single tree, a single vine, or possibly one single hill of strawberries that some one had cared for until every passer by wanted one just like it? Single specimens of plants or flowers are often sold for great prices just because they are just what somebody wants or because they "just suit them." It is the same with bees, poultry, and almost all kinds of stock. Have you never felt that you would cheerfully barter a whole half dozen indifferent specimens for just one such as you have seen? How often do we find some one who has made a splendid result with a single colony of bees, go straitway and invest in a yard full, and then find that he has not only lost his enjoyment with them, but has really never been able to equal the result of his first experiments, just because he was too ambitious to do things on a large scale? Please do be satisfied with a little, do that little well, and make it pay. If you are going to purchase trees, get just so many as you are sure will be well cared for, and plant them at such distances that they will never make your yard look lumbered up.

By all means make your purchases of some nurseryman in your immediate neighborhood, and go and select them yourself. The traveling men have no reputation at stake, and their principal motive seems to be to sell as much as possible in a given time; besides, ther prices are enormous compared with the usual nursery rates. Our predecessor planted our little homestead with apple trees that cost him $1. each, because they were warranted to produce a crop of apples the next season. For horse chestnut trees he paid $2. and other things in proportion to the amount of $50. After about five years a few of the trees bore a few undesirable winter apples, and then we listened to a man who was doing grafting and didn't want a cent until the grafts were all growing. He had, oh! such beautiful kinds of apples, and he even promised to graft a tree with just the kind of apples that used to grow in grandfather's orchard. What a genial pleasant man he was, and how he did give it to those unscrupulous fellows that charged a dollar for 10 cent apple trees. When he came around in May for his money, he wasn't sociable a bit, but presented his bill for *two* dollars each for the grafts that were of a surety sprouting out all over the trees. It had to be paid, and although it was five years ago, we haven't yet seen any apples "like grandfather's." It would seem that a few such lessons should learn one to save his hard earned pennies, but I am fearful they never will at our house, for hardly a year passes, that we don't have the same old story over again. It is true we don't have any more grafting done at five cents each, but it is usually something equally ridiculous. By the way, I procured some shoots from a tree that I knew to be good, and was rewarded in a few years by a tree that bears loads of nice apples; the fact that I did the grafting, always adds an additional flavor to those same red Astrachans. Of course we can not do all the work ourselves, but we can usually employ some one with whom we are acquainted; some one who has a fixed abiding place, and who practices accordingly.

The sight of weeds in a door yard is anything but refreshing, but they *do* have such a way of insinuating themselves into every place where one can not get his scythe, or lawn mower, that it seems as though there were no use trying to have it all fresh green grass; but if all the arrangements are planned at the start, to have every foot of earth where it can be conveniently reached, very much may be done toward lessening this labor. It would be very convenient indeed, if one could fix the door yard, garden, or even apiary so it would stay nice during the whole season, but unfortunately this seems out of the the question. If we are going to have a nice tree, a nice grape vine, or in fact a nice door yard, we must give it attention almost daily. With the grape vines especially, if you want to see with what wondrous facility they may be trained into regular forms of beauty, just keep a ball of twine handy, and tie them up and pinch them off just as fast as they commence to sprawl their mischievous tendrils abroad in search of something to tangle up. Dame Nature seems to be wonderfully accommodating to those who are up with the sun and keep diligently by her side, but she seems the very emblem of perversity, mischief and unsightliness if one neglects her for a few weeks; but she kindly overlooks it all and straitway commences to smile again, as soon as we come back and really show by our earnestness that we have genuinely repented. Here is fun for the children again; take them by the hand and explain to them the wonderful phenomena of vegetable life. Show them the tendrils of the vine and carefully mark its position, then point to them next day the progress it has made, and its way of reaching out for something to get hold of. Show them the funny way it has of kinking itself up like a corkscrew as soon as it has a good hold, just to pull the whole vine up where it can get more light and air than its fellows. Now point them to the bee hive and show them that there too is that wonderful thing we call *life* at work; explain that it is the province of man to guide and direct these wondrous powers, and that in so doing he really becomes what the great Creator intended he should be—capable of standing at the head of all animated nature. As a reward for all this, show them the ripe grapes or the beautiful snow white combs in the tidy sectional boxes. Point to them the great reward that comes to the diligent, the faithful and industrious, and on the other hand the awful consequences of leading a slothful, selfish and idle life. Tell them that it is not only our daily bread, but happiness and contentment that we earn by the sweat of our brow.

## CHAPTER XVI,

### Is for the children.

CAN'T I interest children? We shall see. I have a class of 14 little boys in the Sunday school and I manage to have them nearly all on hand promptly, every Sabbath. I like them all very much, and am pretty sure they all like me, for when the superintendent once said he thought the class would have to be divided they all plead so hard to stay, that we are not going to be divided after all. Now don't you suppose we might have a class here in one corner of Our Homes? True, we could not all have a sugar party out in the woods, as "we boys" did last Saturday, but there is lots of other fun we can have and I will tell you all the funny tricks I know; and I know a big lot of them. I am afraid I haven't taken much notice of the little folks in GLEANINGS so far, but I have thought of you nevertheless, and if you will just write to me, or tell your father or mother to just say you have read this chapter and would like to get acquainted, we may give you a good many chapters in future.

Now if you will be very careful to do just what I say, I will show you how to do something that is very wonderful, as well as very funny. All you that are not wearing woolen coats, are to put one on, or if you are quite small, perhaps your father or older brother had better help you a little. Now you are to borrow of mamma a glass tumbler or goblet; please tell her you will be very careful not to break it, and then mind that you are. You also want a tin plate—such as your mother bakes pies on—and a sheet of stout brown paper a foot square, or larger. A frosty evening is rather the best time for this "trick," altho' it will work almost any time when you have a good fire in the stove; we must have a fire at all events, and you are to stand so close to the stove that your woolen coat has become quite warm. Now to be sure and not fail—I never wish to hear one of my boys say they can't make it work because they have forgotten to do just as I told them—you had better take the glass in your hand and get that warm and *dry* also, then place it on the table and lay the tin plate on it, upside down. Now comes the most difficult part, but it is not hard at all if you do exactly as I say. Take the brown paper in your right hand and hold it so close to the stove that it will get quite hot, almost scorch it in fact; while it is hot put it under your left arm and draw it out quickly, pressing it closely at the time between your left arm and your body. After you have done this several times, lay the paper on the tin plate. Now hold your knuckle within a half inch or less, of the plate, and you will see a little ball of blue fire leap from the tin to your hand Lift the paper off, and you can get another ball of fire; put it down on the plate again and still another. Isn't it funny? Now this is not all nor half of it. If you make the room dark, you can see the queer fire better, and you will find these little balls of fire as full of pranks, as a couple of kittens. Cut out some boys and girls of paper, stand them on the table under the tin, and they will come to life and hop up and down in a most ludicrous manner. To have them dance nicely, you will need to raise them on a book or something until their heads nearly touch the tin; but be sure the tin is entirely supported by the glass, and touches nothing else.

When you have done all this and made it work just as I have said, you are ready for the next step. Get four stout glasses and put them on the floor with a large book over them, then have somebody stand on the book and hold the tin plate. Don't let anybody or anything touch them. Now warm the paper and draw it between the woolens as before. When you can get sparks from the plate you will probably be able to get them from the nose of the person who stands on the glass, and he can also draw fire from your nose, if you have both been careful to do just as I have said. If you have a little sister with soft flaxen hair, who will take her stand on the glass stool, you can if the night is frosty, get her hair to stand on end. Now although you may have lots of fun with these experiments, please be kind and pleasant about it, and don't tease or frighten the little ones. You won't will you? You never knew before that this strange fire was all around so near you, did you? Well God is near you too, and he hears every unkind word. He wishes you to be gentle and obedient, and now if you have got through with the things will you not put them all away nicely? When you do exactly as you know mamma would like to have you do, you are keeping one of God's commandments. If you will send word to me how you liked this visit, I will come again soon and tell you more about the blue fire.

P. S.—I forgot to tell how "we boys" rolled down hill, and jumped across the "wide places" on the creeks at that pleasant 11th of March "Sunday school sugar party."

## CHAPTER XVII,

Has some distant connection with "washing day."

A case was recently mentioned of a merchant who went to New York to purchase goods as usual, and as the transaction was about being closed up, he by some misunderstanding imagined he was being cheated. The more it was explained to him the more he "got mad" until he so far forgot himself as to break out in downright oaths and blasphemy. The clerks of the large establishment were horror-struck at his want of a sense of propriety, to say nothing more, and went for one of the proprietors, who after he had kindly and patiently shown the man his error, informed him the employes were entirely unused to such language, and begged him to consider the effect on society if every one allowed himself to give way to such hasty and unmanly feelings. After the individual got home, he in telling his wife of it, promised he would stop the use of profane language, and heed the good counsel given him. Alas for good resolutions! not many minutes afterward he in attempting to fix the clothes line found both himself and the clean clothes rolling in the dirt from the breaking of the line; it was the old story over again; a string of profanity where no one but himself was to blame for having a rotten clothes line. Now, although this rotten clothes line is to be the thread of our discourse for this chapter, I by no means would teach that a good clothes line was all the man needed. I am glad to be able to add that shortly afterward his heart was made new, and the fountain head from whence came all these muddy waters was cleansed in such a way that he could look on calmly and sometimes smilingly, doubtless, even when events, or his fellows were aggravating to the utmost. His better nature was aroused and the man had risen by contemplation of, and communion with the Being who made him, so much above the passions that had formerly held sway, that there really was no room or temptation to indulge in weaknesses of the old life that he now looked back to with feelings of pain and sorrow.

Before picking up our clothes and line I would remark that among the kind criticisms of these home papers, one comes from a friend in a distant state, reminding me, that perhaps I am forgetting that there may be among my readers those who have very fine houses and door yards; and who would hardly approve my familiar way of telling them how to make cheap sidewalks, etc. I most heartily beg pardon if I have been thoughtless, and would suggest that I am obliged to write for the average humanity; those who have all the comforts of life, need no help, and I must confess that my heartiest sympathies are with those dear brothers and sisters who are working hard every day for all the comforts they possess. May my lot always be with theirs, and may the time never come when any human being in my employ, in whatever capacity, would be unwelcome to sit at the table with our usual family circle.

I would not have a clothes line stretched clear across the yard "no how." Furthermore I would not have any clothes *line* at all, if I could possibly purchase one made of galvanized iron. If it were stretched across the yard, my wife would have to lug her basket the whole length of it, in putting her clothes up and taking them down, to say nothing of the deep snow that we didn't have last winter, but have now this 24th of March. If the line or wire is stretched on a revolving frame, the basket can be set down on a permanent bench made on purpose for it, and the line made to pass its whole length over it by simply turning the frame. You can procure castings of the hardwares to hold the arms to this frame, or the whole apparatus can be home made something after this fashion. Get a good stout oak or cedar post about 6 feet long, and set it in the ground 3 feet. Bore a hole in the top and put in firmly a pin of ¾ round iron so that it will project about a foot. Get two pieces of 2 inch plank a foot square and bore a ¾ hole in the centre of each. Slip them both over the iron pin, then raise the upper one up level with the top of the pin, and fasten it there by nailing strips from one to the other on each of the four sides. Get out four arms of straight grained pine 12 feet long, and 2x3. Halve the ends on to the lower plank in such a way that the outer ends will stand at about the height your women folks would like their clothes line. By the way it will be a fine idea to have a sidewalk made from the kitchen or wash room door to this clothes dryer, and on account of snow we would have it 6 inches above the ground; when the grass is long and wet it will be very convenient also. If you have this walk, let them stand on the end of the walk when they tell you how high to have the line. Now when you are building it, don't have any opinions of your own, but put it at just the height they want it, and if they afterward want it changed, change it as often as they wish. It is the very best way. After this part is decided, get some strips 3 inches by 1 and 16 feet long. These are to be nailed on the upper plank at their middles, and at their ends to the arms that hold the line. All the work should be planed, and if you are careful you can make good joints, even if you are not a carpenter. Now get a small can of the Averill Chemical paint, and you can fix something that you will always be proud of; if you have any paint left, paint the bench to hold the clothes basket, and if your walk is a nice one paint that also. If you make your walk on the plan I gave in the Mar. No., it will be an easy matter to get your scythe close up to it in mowing the grass away near it. Now this apparatus is to be located as near the wash room as it can well be, and get a nice airy and sunny place for the clothes to dry. But Mrs. R. says if all bees are like ours it should be at a pretty good distance from the apiary. Ours stands close to the house apiary, and she insists that even during the summer months the bees spot the clothes more or less. By the way, the greatest complaint that has ever been made against having bees in town, is the spotting of clothes in spring; our way of getting along with it, is to send over a jar of honey when we hear of a neighbor's having had to take their clothes all in and rinse them over again. Please don't ever forget that "a soft answer turneth away wrath."

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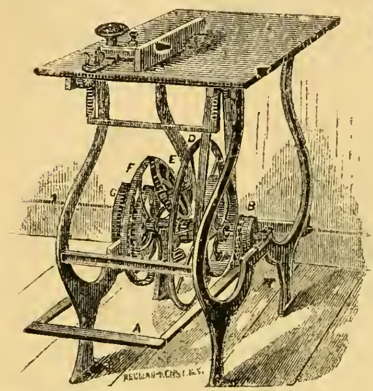

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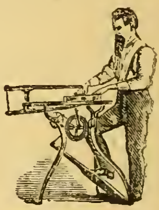

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PUBLISHED MONTHLY, AT MEDINA, OHIO,

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Vol. IV May, 1876. No. 5

*In the Preparation of this Journal the following are the Principal Periodicals Consulted:*

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**Bee-Keeper's Magazine.** *King.*

**Bee World.** *A. F. Moon & Co.*

**British Bee-Journal.** *C. N. Abbott.*

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**American Agriculturist,**

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| 20 | Candy for bees, can be fed at any season. Per lb | 15 |
| 20 | Corners, Metal, per hundred | 1,00 |
| 25 | " " Top only | 1,25 |
| 20 | " " Bottom, gal. iron, per 100. | 75 |

On 1000 or more a discount of 10 per cent will be made, anb on 100,000, 25 per cent. The latter will be given to those who advertise metal cornered frames.

| | | |
|---|---|---|
| 10 | Clasps, for transferring, package of 100. | 25 |
| 0 | Cards, Queen Registering, per doz | 10 |
| 2 | Cages, " | 10 |
| 18 | Case with Separator to hold 3 Section frames. | 06 |
| | Case of 10 of the above, 30 Section frames in all, | 1,25 |
| 2 | Cheese Cloth, for strainers, per yard | 10 |
| | Extractors | $8,50 to 10,00 |
| | " Wax | 3.50 |
| 4 | Frames with Metal Corners | 06 |
| 5 | " Sample Rabbet and Clasps | 10 |
| 10 | " Closed end Quinby, nailed | 05 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | " present " | 1,00 |
| 40 | Gearing for Extractor | 1,50 |
| 20 | Gates, Honey, for Extractors | 50 |

NOVICE'S UNIVERSAL HIVE.

| | |
|---|---|
| One story Langs'h without frames or bottom | $1,00 |
| The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express | 2.25 |

The above is the hive we use and recommend in preference to everything else, and it contains every thing needed for all purposes except at the surplus season. If you decide to use the extractor you want an extra body and 10 frames—$1,25—making complete two story hive—$3,50—or, you can have 30 section boxes (with their 10 cases) in place of the 10 frames, at the same price. If you prefer the old style of glass boxes, we can fit the upper story with 18 having glass on four sides at 12½ cents each; this will make the hive and all cost $5,00.

| | |
|---|---|
| One story Q. hive without bottom or frames | 84 |
| The same with bottom, 10 *nailed* frames, division board and quilt, complete except surplus receptacles | $2.00 |
| The same with two story, 20 frames | 3,00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

A one story complete for 13 frames of either the Standard, American, or Gallup hives, will cost $2,50, and they can also be used with any of the surplus arrangements mentioned; also, as they are all deeper than the Langstroth frame, a single story can be used with fewer frames, and sections or boxes at the side of the frames. As an illustration; we can take four frames out of the one story hives above, and put in their place 18 section boxes.

| | | |
|---|---|---|
| 25 | Honey, Clover, per lb, 18c., Basswood, 17c. By the bar- 2c. less, and waxed and painted barrel included. | |
| 0 | Knives, Honey | 1,00 |
| 0 | Labels, Honey per 1000 | 3,25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp Nursery | 5,00 |
| 0 | Larvæ, for queen rearing, from June to Sept. | 25 |
| 0 | Microscope, Compound | 3,50 |
| 0 | Prepared objects for above, such as bee's wing, sting, eye, foot etc., each | 25 |
| 0 | Medley of Bee-Keepers' Photo 's. (150 Photo's) | 1,00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | " " Double lens | 1,00 |
| 0 | Photo of House Apiary | 25 |
| 06 | Quilts | 25 |
| 2 | Rabbets, Metal per foot | 02 |
| 0 | Scissors, for clipping queen's wings | 40 |
| 15 | Seed, Alsike Clover, *raised near us*, per lb | 35 |
| 20 | " Summer Rape. Sow in June and July | 15 |
| 0 | " Chinese Mustard, per oz | 25 |
| 10 | Smoker | 1,50 |
| 2 | Tacks, Galvanized | 10 |
| 3 | Thermometers | 40 |
| 1¼ | Universal Section Boxes in the flat. each | .01 |
| | Universal case of 30 boxes, just right for U. hives or any L. hive, and can be fitted, to *any* hive | 1,25 |
| 0 | Vails, Bee, with face of Brussels net, (silk) | 75 |
| 0 | The same, all of tarletan (almost as good) | 50 |
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| 3 | " " " Queen Cages | 15 |

All goods delivered on board the cars at prices named.

WE are pleased to note that the *B. B. J.* has copied the diagram of the frames in use in America, and has also made a collection of those used in England. Our British cousins have no frames that are as deep as their width, but run mainly between the Langstroth and Standard.

WE must remind our friends again that where goods are ordered to be sent C. O. D. *some one* has to pay the express Co. for the return of the money and that this charge is never less than 25c, and often more than a dollar. We can none of us afford to throw away our money needlessly.

As a rule we must object to advertising in the reading columns, but as we desire friend Vogel to get his "Hive-wall-hall going, we make him an exception. He offers 40 acres of land for 100 colonies, or $50. cash for 10 good stocks; black bees in box hives same figures. Who will help the professor build his "Bee-temples?"

◆

We have had no problems for a long time, and the one now before us comes so near being Problem 1, that perhaps we had better discuss it under that name. It is in regard to feeding; in feeding only a few colonies, we can get along almost any way. but if one has to feed a barrel of sugar and has neither time nor money to waste, it becomes an important problem as to how it shall be done. Candy solves it completely, if it could only be made as cheaply as we can make syrup, and as safely, but we fear this will never be done, and if it is not made very carefully it will be burned, and this is death to the bees in cold weather, as we proved by killing three of our best colonies. Again if it is not boiled enough, it gets sticky and granulates and the bees waste it. On one occasion we fed a barrel of sugar in less than three hours, and had it all done with,—see Vol. I., page 83—but to do it we used 20 tea-kettle feeders worth $20. What we want is some plan by which we can feed as rapidly, and without the bother and expense of feeders of any kind, or even being obliged to tinker with the hives more than to open them once, and put the feed inside.

We want some plan by which we can get the sugar into the hives, without a particle of waste for, say not more than ¼ of a cent per lb.; this would allow 75c. for feeding out a barrel of 300 lbs. We would add that this should also include cleaning up all stickiness, and putting away all utensils. The method should also be within the reach of every one, and so simple that we could feed a needy colony of bees in two minutes, say while we were waiting for dinner to be ready. And as we are usually tired and hungry about such a time, the machinery should all be very simple. Candy does all this beautifully, if we only *could* afford to sell it at the price of A. sugar, how happy we would be. We will tell you more about it next month.

## BOOKS for BEE-KEEPERS and OTHERS.

[Any of these books will be forwarded by mail, *post-paid,* on receipt of price.]

| | |
|---|---|
| Allen's (L. F.) American Cattle | $2 50 |
| Allen's (L. F.) Rural Architecture | 1 50 |
| Allen's (R. L.) American Farm Book | 1 50 |
| Allen's (R. L. and L. F.) New American Farm Book | 2 50 |
| Allen's (R. L.) Diseases of Domestic Animals | 1 00 |
| American Bird Fancier | 30 |
| American Gentleman's Stable Guide | 1 25 |
| American Rose Culturist | 30 |
| American Weeds and Useful Plants | 1 75 |
| Atwood's Country and Suburban Houses | 1 50 |
| Art of Saw Filing. (Holly) | 75 |
| Bailey's Our Own Birds of the United States | 1 50 |
| Barry's Fruit Garden | 2 50 |
| Bell's Carpentry Made Easy | 5 00 |
| Bement's Rabbit Fancier | 30 |
| Bogardus' Field, Cover, and Trap Shooting | 2 00 |
| Bommer's Method of Making Manures | 25 |
| Boussingault's Rural Economy | 1 60 |
| Breck's New Book of Flowers | 1 75 |
| Breech-Loader | 2 00 |
| Brill's Farm-Gardening and Seed-Growing | 1 00 |
| Buist's Flower Garden Directory | 1 50 |
| Buist's Family Kitchen Gardener | 1 00 |
| Burns's Architectural Drawing Book | 1 00 |
| Burns's Illustrated Drawing Book | 1 00 |
| Burns's Ornamental Drawing Book | 1 00 |
| Burr's Vegetables of America | 3 00 |
| Caldwell's Agricultural Chemical Analysis | 2 00 |
| Canary Birds. Paper, 50 cts. Cloth | 75 |
| Carpenters' and Builders' Guide | 1 00 |
| Chorlton's Grape-Grower's Guide | 75 |
| Cider-Maker's Manual | 1 50 |
| Cleveland's Landscape Architecture | 1 50 |
| Cobbett's American Gardener | 75 |
| Cole's (S. W.) American Fruit Book | 75 |
| Cole's Veterinarian | 75 |
| Copley's Plain and Ornamental Alphabets | 3 00 |
| Cooked and Cooking Food for Animals | 20 |
| Crack Shot. (Barber) | 1 75 |
| Croff's Progressive American Architecture | 10 00 |
| Cummings' Architectural Details | 10 00 |
| Dadd's (Geo. H.) Modern Horse Doctor, **12 mo** | 1 50 |
| Dadd's American Cattle Doctor, **12 mo** | 1 50 |
| Dadd's American Cattle Doctor, **Octavo,** cloth, gilt back | 2 50 |
| Dadd's American Reformed Horse Book, **Octavo,** cloth, gilt back | 2 50 |
| Dana's Muck Manual | 1 25 |
| Darwin's Variation of Animals and Plants, 2 Vol's | 6 00 |
| Dead Shot; or Sportman's Complete Guide | 1 75 |
| De Voe's Market Assistant | 2 50 |
| Dinks, Mayhew, and Hutchinson on the Dog | 3 00 |
| Downing's Landscape Gardening | 6 50 |
| Dwyer's Horse Book | 2 00 |
| Eastwood on Cranberry | 75 |
| Eggleston's Circuit Rider | 1 75 |
| Eggleston's Hoosier School-Master | 1 25 |
| Eggleston's End of the World | 1 50 |
| Eggleston's Mystery of Metropolisville | 1 50 |
| Eggleston's (Geo. Cary) A Man of Honor | 1 25 |
| Elliott's Lawn and Shade Trees | 1 50 |
| Elliott's Western Fruit Grower's Guide | 1 50 |
| Emerson's Farmers' and Planters' Encyclopædia | 6 00 |
| Eveleth's School House Architecture | 6 00 |
| Every Horse Owner's Cyclopædia | 3 75 |
| Farmers' Barn Book | 1 50 |
| Field's (Thomas W.) Pear Culture | 1 25 |
| Flax Culture | 50 |
| Flint (Charles L.) on Grasses | 2 50 |
| Flint's Milch Cows and Dairy Farming | 2 50 |
| Frank Forrester's American Game in its Season | 3 00 |
| Frank Forrester's Field Sports. 8vo, 2 Vol's | 6 00 |
| Frank Forrester's Fish and Fishing. 8vo, 100 eng's. | 3 50 |
| Frank Forrester's Manual for Young Sportsmen. 8vo | 3 00 |
| Frank Forrester's Horse of America. 8vo, 2 vols | 10 00 |
| French's Farm Drainage | 1 50 |
| Fuller's Forest Tree Culturist | 1 50 |
| Fuller's Grape Culturist | 1 50 |
| Fuller's Small Fruit Culturist | 1 50 |
| Fuller's Strawberry Culturist | 20 |
| Fulton's Peach Culture | 1 50 |
| Gardner's How to Paint | 1 00 |
| Geyelin's Poultry Breeding | 1 25 |
| Gregory on Cabbages....paper | 30 |
| Gregory on Onions....paper | 30 |
| Gregory on Squashes....paper | 30 |
| Guenon on Milch Cows | 75 |
| Gun, Rod, and Saddle | 1 00 |
| Harney's Barns, Out-buildings, and Fences | 6 00 |
| Harris' Insects Injurious to Vegetation...Plain $4; Colored Engravings | 6 50 |
| Harris on the Pig | 1 50 |
| Henderson's Gardening for Pleasure | 1 50 |
| Henderson's Gardening for Profit | 1 50 |
| Henderson's Practical Floriculture | 1 50 |
| Hemsley's Hardy Trees, Shrubs, etc | 7 50 |
| Herbert's Hints to Horsekeeping | 1 75 |
| Hooper's Dog and Gun....paper, 30c....cloth | 60 |
| Hoopes' Book of Evergreens | 3 00 |
| Hop Culture | 20 |
| Hunter and Trapper | 1 00 |
| John Andross. (Rebecca Hardin Davis) | 1 50 |
| Johnson's How Crops Feed | 2 00 |
| " " " Grow | 2 00 |
| Johnson's Peat and Its Uses | 1 25 |
| Johnston's Agricultural Chemistry | 1 75 |
| Johnston's Elements of Agricultural Chemistry | 1 50 |
| Leuchar's How to Build Hot-Houses | 1 50 |
| Lyman's Cotton Culture | 1 50 |
| Miles on the Horse's Foot | 75 |
| Mohr on the Grape Vine | 1 00 |
| My Vineyard at Lakeview | 1 25 |
| Nichols's Chemistry of the Farm and Sea | 1 25 |
| Norton's Scientific Agriculture | 75 |
| Onion Culture | 20 |
| Our Farm of Four Acres....paper, 30c....cloth | 60 |
| Our Digestion. By Dio Lewis | 2 00 |
| Pardee on Strawberry Culture | 75 |
| Parsons on the Rose. By Samuel B. Parsons | 1 50 |
| Pedder's Land Measurer | 60 |
| Percheron Horse | 1 00 |
| Play and Profit in my Garden. Rev. E. P. Roe | 1 50 |
| Quincy (Hon. Josiah) on Soiling Cattle | 1 25 |
| Quinn's Money in the Garden | 1 50 |
| Quinn's Pear Culture for Profit | 1 00 |
| Randall's Sheep Husbandry | 1 50 |
| Randall's Fine Wool Sheep Husbandry | 1 00 |
| Rand's Flowers for Parlor and Garden | 3 00 |
| Rivers Miniature Fruit Garden | 1 00 |
| Roe's Play and Profit in my Garden | 1 50 |
| Saunders Domestic Poultry....paper, 40c....cloth | 75 |
| Schencks Gardeners Text Book | 75 |
| Skillful Housewifery | 75 |
| Stewart's (John) Stable Book | 1 50 |
| Thomas Farm Implements and Machinery | 1 50 |
| Thompson's Food of Animals | 1 00 |
| Tim Bunker Papers | 1 50 |
| Tobacco Culture | 25 |
| Turners Cotton Planters Manual | 1 50 |
| Warder's American Pomology | 3 00 |
| Warders Hedges and Evergreens | 1 50 |
| Warings Draining for Profit and Health | 1 50 |
| Warings Elements of Agriculture | 1 00 |
| Weidenmanns Beautifying Country Homes. A superb quarto volume. 24 lithograph plates, in colors | 15 00 |
| Whites Cranberry Culture | 1 25 |
| Whites Gardening for the South | 2 00 |
| Youatt and Spooner on the Horse | 1 50 |
| Youatt and Martin on Cattle | 1 50 |
| Youatt on the Hog | 1 00 |
| Youatt on Sheep | 1 00 |

### SELECTED BOOKS.

| | |
|---|---|
| An Egg Farm. New, novel and useful. Paper | 50 |
| Cloth | 75 |
| Ten Acres Enough | 1 25 |
| Five Acres too Much | 1 50 |
| Window Gardening | 1 50 |
| Purdy's Small Fruit Instructor | 25 |
| Carpenters' and Joiners' Hand Book | 75 |
| How Plants Grow | 1 25 |
| Every Woman Her Own Flower Gardener. Paper | 50 |
| Cloth | 1 00 |
| Earth Closets, and Earth Sewerage | 50 |
| Trout Culture | 1 50 |
| Potatoe Culture | 25 |
| How to use the Microscope | 75 |
| Jenny June's Cook Book | 1 50 |
| Scroll Sawing with Patterns | 1 00 |
| How to Make Candy | 50 |

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WE would refer those interested in poultry to the new poultry book entitled *An Egg Farm*, something different from anything you have ever seen on the subject, and *we* think worth many times its cost to those who may never keep poultry, for its excellent ideas in regard to economizing labor in almost any rural industry. From the first chapters published in *Am. Ag.* in '71, we gathered the idea of the Hexagonal Apiary. It is a book that we like to read over and over again. Price, 50c. paper, cloth 75.

## ABOUT SENDING MONEY, ETC.

While we think it unwise to send sums of money, say over $5.00, without registering, yet there is an item of expense for P. O. orders or paying registry fees, that we think is not fairly taken into consideration. The point is of course to get our money to its destination as safely and with as little expense as possible. The editor of *A. B. J.* used to say that not one letter in 10,000 was lost in the mails if properly directed; but for the purpose of making a simple business calculation, we will say that not more than 100 fail from all causes; leaving off a part of the address, omitting your name or residence, losing the letters while on the way to the P. O., or after being delivered, robbery of the mails, and even if you please, including carelessness of the recipients; summing it *all* up, not more than one in a hundred is lost from all these causes. This is a point we have watched carefully, and have deduced as follows, for our own business.

If we had $100. to be sent to 100 different individuals, it would cost us $10. to get P. O. O., or to register them all; whereas, if our rule above is good, it would only cost $1. and would save a vast deal of trouble, to send without, and have the $1. lost. If we sent $2. to each, it would still be cheaper to have it lost, and so on until we reach the amount of $10. Above that it would be a saving to use the money orders. If this were all, we should say register only when the amount exceeds $10., but we must take into consideration that the loss of a letter may cause delay or disappointment that will be worth or cost as much as the sum inclosed; and therefore we have made it our *rule*, to register or get P. O. O., for all amounts over $5. One exception to this rule; if the party to whom you are sending is tricky, or even not known to be careful and trustworthy, it may be best to have proof that the money was put into his hands; and either the P. O. O. or the registry gives this proof. Now if you feel perfectly sure you can trust us, it is expensive business for you to pay 10 cents every time you wish to send us 75 cents or $1.; but if you adopt our plan, you should do so expecting to take your chance once in a hundred times, and when the loss comes pay it over again without being suspicious of your friends. If you can't do this, take the more expensive and troublesome way of paying 10 cents every time, to make it safe. Why do *we* not take all the risks of money sent us? Principally because we should have to make our prices high enough to have our careful friends pay for the carelessness of the others. Our prices are based on having the money delivered to us without expense, and most of our friends wish to have it thus. One more item: we are much annoyed by receiving small sums by express; we recently had to pay 75c. express charges on $1.50 in money; and sometimes we get individual checks for amounts as small as 75c., yet we always have to pay at least 25c. exchange, and sometimes 50c. We are sending money to all parts of our country, and even other countries, and we think we do it quickly and with little trouble. For amounts less than $5. we put the money in a letter carefully sealed and directed, if we know the parties well, to whom we are sending; and then if it is lost we send it over again without feeling hard at all, for it was our own risk. If we have not perfect confidence in the parties, or if the amount exceeds $5, we send P. O. O., or register. For amounts over $10. we would advise N. Y. draft; if you use any other you are liable to cause your friends—every one you deal with should be a friend whom you would be as careful to guard against loss as yourself,—to pay 25 or 50c. exchange. Perhaps people make more mistakes in being unaware of the rates charged by the express Cos. than in any other way, and when something is sent them on which the charges are more than the value of the article, they make another great mistake in ordering it sent back. A customer ordered a $1. hive by express, when he found the charges were $1.50, he would not take it, yet had no scruple in—thoughtlessly, we presume,—leaving us quite a sum out of pocket for following his orders to the letter. An order is before us for 46c. worth of goods to be sent by express. The express charges on the same would be $1. or more. We many times send by mail and take our chances of getting postage—glad to be able to say we most always get it and thanks besides, for our friends all wish to do what is right when they understand the matter,—just to save our patrons from charges we know they do not expect; but it makes us much writing and increases the chance of blunders. If it is a possible thing make your orders in accordance with our price lists; they can then go by return mail. If they are not, they may have to await the personal supervision of Novice, who is just now trying desperately hard, to prevent any more of his bees from dwindling out or starving.

## THE HOOP HIVE.

NOW it does seem to me, after looking the Universal hive over very carefully, that it would be just as well to have the first story or brood chamber solid. I see no real advantage in the sections, and I must say I am decidedly opposed to a movable bottom board. By having the lower part solid you would save the metal corners as well as the extra trouble of making, and I think we would have by its being solid, a hive that would stand the weight of all the honey boxes you might choose to put upon it.

I can very readily see the advantage gained in having the upper sections. But again, do you think one of those hives, being as light as it is, will stand our March winds? why the first thing I thought of on picking one of them up, was that the first strong gust of wind that struck it would fairly tear it in pieces. In regard to entrances, do you think the one you have in those hives sufficient during the honey gathering season? I. A. CAMPBELL, Warsaw, Mo.

Your first impressions are very natural friend C. but it may astonish you to find that your frail looking hive will hold a weight of over 300 lbs safely; and it is expected when they are out during a March wind that they will have enough honey inside to "hold 'em down." If we made the body of wide boards, we should have to bring another piece of furniture into our apiary; and besides, extra hives that are unoccupied could not be used to hold a set of boxes as the exigency of the case might demand, (as it now can,) nor could we on the other hand make complete hives of any extra half upper stories, as we now can. Again, if the bodies are all made solid, we should require a hoop to make the quilt fit nicely, and still allow one hive to be set on the other and give us the exact distance between the frames. You must have a loose bottom board if you have your upper and lower stories one and the same thing, but you can very quickly fasten the bottom to the end boards with a couple of small screws. The thin lumber which suits admirably so far as dampness is concerned, could not well be nailed, and we think one who has handled them would be quite loth to go back to the heavy hives. Finally, although there is more work on the hoops, they are cheaper in the end, for we have only one thing to make, and if we make that exactly right, our whole hive will come right. It is an easy matter to learn to do one thing well, and it does not require a finished mechanic; while to make all the different pieces that are needed in hives as usually made, and make them just right, is so difficult that very few ever succeed in doing it. It will take a very good colony indeed to fill the entrance as we make it, but with a loose bottom board you can easily give them any amount of entrance or ventilation. With a new swarm it may be well to raise the hive and let them pour in all at once; especially if there is danger of others mixing with them. It is true the hoops cannot well be made without a buzz saw, but for that matter neither can the hive, well and profitably.

I am erecting a House Apiary on the Centennial grounds containing 32 hives and occupying a very commanding position. Your ideas regarding a uniform size of surplus frames and boxes, I like very much and I will give you my most earnest cooperation in efforts to secure so important an end as a universal honey box.

If by further correspondence we can do any thing to forward bee-culture, I will give it my hasty attention.

J. S. Coe, Montclair, N. J. April 8th '76.

*NEW ADVERTISEMENTS.*

## ARTIFICIAL HONEY COMB FOUNDATIONS.

Having purchased the patent for the manufacture of this article, it can be had only of the undersigned.

PRICES AT PRESENT WILL BE AS FOLLOWS:

| | |
|---|---|
| Made of yellow beeswax, small sample lots, 6x6 inches, one pound or more, by mail, post paid, per lb. | $1,50 |
| 12 inches wide and several feet long or in one continuous piece, rolled and packed carefully, 5 to 10 lbs., by express or freight | $1,20 |
| do do 11 to 25 lbs., do | 1,15 |
| do do 26 to 100 lbs., do | 1,05 |
| do do over 100 lbs., do | 1,00 |

If cut to any size ordered, add 10c per lb. to above prices.

If made of *white beeswax*, add to above prices 30c per lb.

If ordered by mail, add 20c per lb. to above prices.

No charge for packing cases or cartage.

Full weight, and quality warranted as represented.

The money must in all cases accompany the order, except by special arrangement.

Samples of white and yellow, in box, by mail. 10c.

**C. O. PERRINE,** 7 Market St., Chicago, Ill.

☞ Will pay 30c per lb. for choice yellow Beeswax delivered here. 4tf90cp

## 1876. ITALIAN QUEEN BEES. 1876.

We have raised and sold Italian queen bees for the past 14 years. We breed from selected Imported mothers. Ninety per cent of all we send out prove to be purely fertilized. All queens warranted pure, and safe arrival guaranteed, by *mail*. One queen $2.00.

5 H. ALLEY, Wenham, Mass.

**FOR SALE:** My farm, 120 acres with brook and best of timber, on the Boyne (trout river), head of Pine Lake (finest harbor of the Great Lake Navigation) and near a coming Saw-mill, Rail Road, and Docks of rising villages—for $1500. cash. Address, M. VOGEL. Boyne P. O., Charlevoix Co., Mich. 5-6

## THE ITALIAN BEE CO.

DISSOLUTION.—Mrs. Ellen S. Tupper's connection with the Italian Bee Company terminated February 26, 1876. The business of the Company has been assigned to the management of the undersigned. Mrs. Tupper leaves no accounts, and full particulars upon all incomplete business sent to her or the Company is desired immediately. Price lists of Colonies, Nuclei and Queens, Extractors, Hives, Seeds, etc., will be sent on application to The Italian Bee Company,

4tfd J. E. ROCKWOOD, Manager, Logan, Iowa.

## Queens. 1876. Queens.

I shall have for sale to Bee-keepers the present season, Choice Tested breeding queens. Raised in full stocks, from selected Imported Mothers. Price,

| | |
|---|---|
| One queen | $4,00 |
| Two " | 7,00 |
| Three " | 10,00 |

None sent by mail.

4-10 Address JAMES LA BARE, Cincinnati, O.

## CANADA HONEY EXTRACTORS.

Made entirely of metal, $8.50 to $10.00 each. The lightest, strongest, handiest and best. You can save about $5.00 in express charges, passing the customs and duty, by ordering from me. I manufacture for Canadians to save them the enormous expense and trouble of importing. In ordering, give outside dimensions of frame or frames to be used. Sample Hives complete, the best for Canada, $1.50 each. Italian queens and bees for sale in their season. Parties in the United States should order extractors from A. I. Root, Editor of GLEANINGS, who makes the cheapest and best.

D. A. JONES,
4t$1.80 Beeton P. O., Ontario, Canada.

## SECTIONAL HONEY BOXES.

All who wish to get the most honey in the most convenient saleable form should use our Improved Sectional Boxes. *Combs built true* in the sections every time. Boxes sell for more than first cost.

4-6 Address PARKER & DICER, Marshall, Mich.

## PURE ITALIAN QUEENS FOR 1876.

I have on hand 100 Italian queens, raised in May and June last. They were propagated in populous colonies, are pure and prolific. Price $5.00 each. I will pay express charges and guarantee safe arrival.

3-4d W. P. HENDERSON, Murfreesboro, Tenn.

## 125 Colonies Italian Bees For sale at $7.50 per Colony---10 for $70.00.

Bred from Imported Mothers; are in good movable frame hives, well painted; are in good condition.

3tfd M. PARSE, Pine Bluff, Ark.

Refer. by permission, to Trulock Bros., Bankers, Smart, Hudson & Co., Bankers. Pine Bluff, Ark.

## Italian Queen Bees & Full Colonies AND Pure Bred Fancy Poultry for 1876.

For Circular, Address Postal Card to Lowell, Garrard Co., Ky. 2p-5 R. M. ARGO.

## Italian Queens For 1876.

Having disposed of all the black bees in our vicinity we are prepared to furnish *Choice* Queens, bred from *Imported* and *Selected* Mothers. Careful attention being given to the selection of *Drone Mothers*; allowing *none* but those selected, to produce them.

At the following *low* prices we will furnish

| | |
|---|---|
| 1 Unwarranted Queen | $ 1.00 |
| Safe arrival warranted on orders for six or more. | |
| 1 Warranted Queen | 1.50 |
| 1 doz. Warranted Queens | 15.00 |
| 1 Tested Queen in May or early June | 3.50 |
| 1 " " after June 25th | 2.50 |
| 1 doz Tested Queens after June 25th | 25.00 |

NUCLEUS STOCKS.

| | |
|---|---|
| Small Nucleus Hive and Tested Queen | $ 3.50 |
| 2 Full Sized Frames 11-12 and Warranted Queen | 4.00 |
| 4 " " " " " " | 6.00 |
| 1 Colony Pure Italians | 10.00 |

Satisfaction guaranteed.

Address, J. OATMAN & CO.,
2-4p7d Dundee, Kane Co., Ills.

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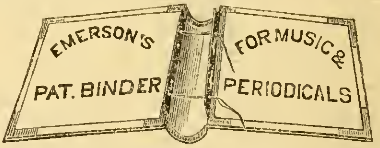

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This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
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Vol. IV. MAY 1, 1876. No. 5.

## SMOKERS, ETC.

IT is said that, "In a multitude of counsellors there is safety." Just where the safety comes in, for the novice in apiculture who attempts to follow teachings that differ *toto cœlo,* it is difficult to conceive. Thus, friend Doolittle on page 75, takes Novice to task for his sayings about smokers. Your humble servant, too, has had to make a business of taking off boxes, and he has had to employ an assistant, to blow the mouth smoker; and then just as the hive is nicely open, the smoker is likely to go out and it must be relighted, bees in the meantime having pretty much their own way. And by the time he gets half through, assistant has blown till she is just about sick, and she must retire. Not so with the Quinby. No assistant is necessary. No chronic *go out* about it. It stands by you, faithfully smoking away, ready for use at any moment. In short, after a fair trial, I have rejected the mouth smoker, and chosen the Quinby, for precisely the same reasons that have led friend Doolittle to a diametrically opposite conclusion! And to me the Quinby *is a jewel.* D. P. LANE.

Koshkonong, Wis., April 4th, 1876.

If it were smokers only on which bee-keepers disagree, friend L., we might feel thankful, but it is hives, honey, bees, feeders, and lately they bid fair to wage a fierce war on patents, to say nothing of the diverse opinions in regard to how a Bee journal should be conducted. As an illustration, one friend wishes his journal stopped because we do not answer questions more at length, that a novice may understand, while several of the veterans actually "get mad" in reading "Heads of Grain," because we fill it with so many repetitions, and things that every body knows already. Again, our regular subscribers do not wish us to repeat the whole of what we wrote last year or the year before, yet we get abuse—most of it stated very pleasantly—because we often refer inquiries to the back numbers. One party insists that we make every number complete without any reference to previous ones; while others wish us to collect all the facts we can on a subject, give an exhaustive article, and then refer future querists to said number. It is the same in regard to small or large type; as the votes are just about equally divided, and about equal in vehemence, we are really obliged to decide according to our best judgment, as before. In regard to smokers, and other implements, we can give our opinion, but that like the opinion of the rest, is liable to be a mistaken one; many times the best we can do is to give opinions on both sides and let each decide for himself.

Bee-culture is a new and rapidly growing science. and as a consequence, much error will creep in now and then, which must be thrown out as soon as discovered. New developments, bring demand for different implements, and if the hive we advise this season differs from the one we sent out a year ago, is not the sudden and unexpected demand for comb foundations a sufficient reason for it? Now dear friends, can not all this be talked over in a friendly and charitable way? Can we not bear in mind that it is but human to err, and take it all good-naturedly, even though we are sufferers. The implements we send out now, are so much superior to those sent out two years ago, that we feel ashamed of the old ones, yet we then made them the best we knew how. To bring them to their present state we have wasted much money on experiments, and have never hesitated to throw away any implement, as soon as really assured we had a better one.

---

I have 18 swarms and think if the Quinby smoker is a good thing, I would like one. Please give me a description of it. It makes me sick to blow smoke from rotten wood, or through a pipe.

T. P. MORTON, Augusta, Mich.

The Quinby smoker is a very light and neat little bellows with a tin tube attached to one side for holding the burning wood or rags; and the valves are so arranged that when standing on end it has a draft, and burns like a minature cook stove. When laid on its side, the valves close, and it soon goes out for want of air. When in nice order, a stream of smoke two feet in length may be produced, and with it we can send this jet of smoke beneath the quilt as soon as it is raised a little, or to any part or corner of the hive, driving almost any kind of bees with as much ease as you would drive flies with a brush. That is one side of the story; another is—especially if your smoker is allowed to become filled up with soot, or if your fuel is not carefully selected and dried—that it takes three-fourths of your time to fuss with the machine to keep it going, and even then it will go out at the wrong time, the bees will take the stream of cold air as an insult and will crawl up your sleeves and perhaps into the tube of the smoker, and finally instead of *being* driven, will drive *you* clear out of the yard.

## HOW TO GET THE BEES OUT OF THE HONEY BOXES, ETC.

IN taking off honey boxes, many of your readers have felt the need of some fixture that would permit the bees to pass out freely from the boxes, and at the same time effectually prevent them from coming back and bringing all their friends with them. Last Sept., when honey was scarce and robbers plenty, I made and used the fixture described below, and found it to answer the purpose exactly. Make one tube of wire cloth 8 inches long and 1¾ in diameter; make another of the same material, 8 inches long, 1¾ in diameter at one end and ¼ inch at the other. Put the last tube inside the first, and you have the fixture. To use it, bore a 1¼ inch hole in the side of a box, fasten the large end of the inner tube over the hole, put your honey boxes inside the box and cover closely, so as to exclude robbers and the light. This fixture can be used at any time when the weather is warm enough for bees to voluntarily leave the boxes. To make the thing more complete, take a piece of ½ inch pine 4x1 inches, and fasten the tube over a hole in the centre by driving tacks through loops in the end of the wire cloth. It can then be fastened anywhere by pushing a large tack through holes in the wood. The inner tube should be about ⅜ or 5-16 inches diameter at small end. Six inches in length would probably do as well as eight.

The robbers clustered around the base of the tube; saw a few go inside of the outer tube but they soon became disgusted with the arrangement. I didn't see any that came near getting in. R. M. REYNOLDS.

East Springfield, O., March 9th, '76.

One great advantage of the section boxes, is that the bees can be driven out with smoke at once, or they can be brushed off as we do in extracting, if the boxes hold but a single comb. With boxes holding two or more combs, especially those with four glass sides, there is always more or less trouble, in getting the bees out. Quinby advises putting a lot of the boxes in a large box, and covering it with a white cloth which is to be turned over as often as the bees get clustered in considerable numbers on the under side. This requires care and time, and if you are careless, the wind may blow the cloth off in your absence and away go the robbers and the honey. The plan given above is less trouble, and makes a pretty sure thing of it; but what is to become of the young bees that have not yet learned to fly home? To save all these, it has been suggested that we pile our boxes all up close to each other and then put one box among them containing a queen; or if more convenient, even a piece of unsealed brood would do. The bees will in time all flock to it, and may then be treated as a swarm or nucleus.

The wire cloth tube may also be used for trapping robber bees. On one occasion we were troubled with a quantity of black robbers that would by some hook or crook get at our surplus combs in spite of us. They would even burrow in the saw dust with which some hives were closed, until they got in, and then away went the contents of the well filled combs. One morning after we had become perfectly tired of their pilfering at every hive we opened, we bored a hole in a hive they knew the contents of, and allowed them to go out and in until they were really doing a "land office" business. We then pushed into the hole a wire cloth tube with the inner end raveled out, and the loose ends brought near each other. Of course as soon as the machine was ready, they crowded in until every last robber bee had disappeared, and peace and tranquillity reigned in the apiary. During the day a few more would now and then come round, but the "squealing" of their comrades who wanted to "get out" would very soon draw them to the spot; in a trice they too were safely "bagged," for as the tube reached nearly in to the centre of the hive, the cluster of bees trying to get out, were not near the end that was raveled. We gave them a comb of imported brood, just after dark, and left them nearly a week to get to be "honest bees." By the way, black bees are much more disposed to go home after such confinement than Italians. Well, we finally decided to let them out, and they poured out in such a stream that we feared they were only robbers still; but after, may-be 15 minutes, we were more astonished than ever to see a crowd of bees before the entrance struggling to see who should get in first, and every one was laden with huge pellets of a beautiful snow white pollen that contrasted so ludicrously with their jet black and shining bodies that we could only shout with laughter. We would like to add that they built up to a fine colony; but they did nothing of the sort, for in less than two weeks nearly every bee was gone; probably died of old age. Do you wonder why we never told of this before? Well the fact is, the trap was made on the Sabbath day, and they were let out on the Sabbath; besides we never quite succeeded in persuading ourselves that these black bees came from the woods instead of from some of our neighbor's bee hives. It happened two years ago.

Before closing, we wish to mention that the *British Bee Journal*, about a year ago, gave a drawing of a "five pin bee trap" so ingenious, that we will try and procure the cut for our June number.

## RIPENING EXTRACTED HONEY.

I REGRET having to take issue with so excellent an authority as friend Muth, but while I agree with him in the main, I think he is certainly in error in regard to honey ripening better in open vessels than in the hive. I hope that apiarians will test the matter thoroughly, and report the coming season. It is a good plan to allow the honey to ripen, as Muth advises, but not so much to allow the honey to ripen as to allow all the particles of air mixed with the honey to escape.

Extracted honey being thrown in small particles from the comb, contains many particles of air which ought to be allowed every facility to escape.

In regard to keeping each kind of honey separate, I fully agree with him, but will not extract thin watery honey on any account unless it is of such a flavor as to seriously injure the choice honey. My experience with thin honey is that it remains thin, unless more than ordinary care is taken to evaporate it. When the hives are filled with thin watery honey, there is but little to be gained by extracting. As the yield in such cases is usually not very great I prefer to keep my bees building comb in the centre of the hive, giving them all the room necessary. We should aim at quality instead of quantity. There is nothing to be gained by flooding the market with inferior honey.

If the fruit blossom honey is very inferior, it should be extracted at the commencement of the clover season and kept for feeding in times of scarcity; we should be very careful not to extract the clover honey until just before the basswood blooms, unless we are very certain that we will have time for the honey to ripen well each time. The basswood honey should be removed before there is any honey brought in of an inferior quality. I find it generally unnecessary to make more than three grades of honey in our locality; all that is not fit for the third grade, should be reserved for feeding. Honey should be mostly sealed up before extracting; that which is not sealed will become candied much sooner than the sealed. In order to induce the honey to become candied solid and regular, the barrel should not be filled quite full, and a piece of wire gauze tacked over the bung so as to admit the air. To keep it from candying, as long as possible, fill the barrel full after allowing a sufficient time for the air to escape, and bung tightly. E. C. L. LARCH, M. D.

Ashland, Boone Co., Mo.

◆

## CALIFORNIA NOTES.

I KEPT Italian bees in northern Iowa two years and it gave me the bee fever. Owing to poor health had to leave; went to Colorado—no place for bees and fruit—brought up in California, adjoining the city of Los Angeles. My health is improving, and to tell the truth I should hate to die and leave this "garden of Eden." Orange trees almost breaking down with the golden fruit—a short distance off, the mountains, covered with snow, with the sun shining brightly, as it does most of the time here. What could be more beautiful here below?

I bought, last spring, 46 stands of black bees in old box hives; increased to over 350 and made 2000 pounds honey. I Italianized most of them. My mode of introducing a valuable queen, is to take two pieces of wire cloth the size of frame, tack strips of wood ½ inch thick to the edges letting them project at the corners enough to hold a small string. Take a frame of brood just hatching, put on your cloth, put queen inside, tie the corners, and put your frame in among the bees. In a few days she will have commenced to lay, the the eggs can be seen through the cloth, just cut the strings, and spread the arrangement, just enough for the bees to pass, for a day or two before removing the frames.

Los Angeles, Cal., Jan. 12th, 1876.

My bees are doing nicely. Out of the 350 stands, have as yet lost but two. They are bringing in pollen finely now, the wintering does not trouble us here.

I am calculating to make this season, from 200 stands 20,000 lbs. of honey and 800 stands of bees. My friend Amateur tells me he is calculating to make from 200 stands 100,000 lbs. of honey. I tell you, friend Novice, just bring out some of your best bee men here, and we will wake up the natives. E. E. SHATTUCK.

Los Angeles, Cal., Jan., 28th, 1876.

*The mode of extracting honey and melting wax previous to the introduction of the extractor* here, and even yet. Work the broken combs so as to cut or break the combs from the hive and melt them in the sun, which they do by making a triangular box like a corner cupboard four to eight feet long, and two to three broad on the face; cupboard is laid face upward so that the glass covered door will let the full rays of the sun through on the honey. Placing the extractor on the south side of a building to get the additional reflected heat, the inside of the box is lined with tin to make it honey proof and to reflect heat. It is supported on legs, and a faucet at the lower corner draws off the honey. A shelf of perforated tin or strong wire cloth is laid in loosely, covering all the surface beneath the glass, and eight to twelve inches from it. As the wax and honey melt they run through this screen, when the honey is drawn off and the wax lifted out.

Our good bee-keeping friend J. G. Corey, here, claims this heating is of great service in preventing the candying of good sage honey, consequently he heats all his extracted honey in this wax melter.

R. WILKIN, San Buena Ventura, Cal.

P. S.—The wax must be remelted and moulded into cakes; this makes very pretty wax.

# Notes & Queries.

NOW if this department is a mixed up mess, please excuse it. Our table had become covered with a mass of letters that we found it impossible to classify, which nevertheless contained many items of importance. We have therefore endeavored to put it all into the smallest amount of space possible, and yet embody the important ideas. For an index to the points touched upon, see contents.

I wish to know if you would care to sell some bellows smokers; improved Quinbys. I got one from him, which wore out in a short time. I can make a better article for $1.00, perhaps less. They would be heavier, not quite so neat, and have a contrivance to keep the fire in if desired.

Do you think it would pay to get up a pair of platform scales for bee men, to weigh from 150 to 200 lbs., to sell at 10,00?

I was at your place the day you left for Michigan; was sorry you were not at home, but I looked around and do not regret my visit. I like glass division *boards* you have in the house apiary and have made some on the same plan, only with wood frames. It will often save taking the quilt off to examine. I do not think candy will be as good as syrup in spring; I make my feeders out of shot bags. J. WINFIELD.

Hubbard, O., Feb., 11th, 1876.

A smoker must be light, and neatly finished. As we are perhaps a little fastidious, it may be sometime before we are suited; at present, we have not succeeded in making anything that we like as well as Quinby's. Something to suspend a single hive, even if it did not weigh very accurately, would be quite desirable, but it ought not to cost more than $1.00. Perhaps some simple coiled spring, that would indicate when the bees were gaining or losing, might answer every purpose. Who will get up something neat and cheap? The same instrument should have a capacity sufficient to tell when the hive was heavy enough for winter. Our out-door hives were all weighed; those in the house apiary. we could not weigh very well, and nearly half of them *starved*. The glass division boards are very convenient in the house apiary, but we would hardly advise them for out-door hives.

I used the Barker & Dicer sectional box the past season, but the bees failed to follow the guides—building the combs in every direction, so that the sections could not be cut apart without the honey running out.

OTIS FULLER, Mason, Mich.

Please take pen in hand and as you read answer by yes, no, or figures as required, and return this sheet answers and all. Are the tin corners and top bars of Langstroth frames sufficient for the section frame for surplus to rest on? [Yes.] Will bees winter well in

Langstroth frames? [Yes.] Will they winter better in deeper ones? [No.] How many frames should brood chamber hold? [6 to 12.] How wide inside should hive be for this number of frames? [8½ to 17 inches.] Have you small frames for queen rearing and size of? [Discarded.] I would like to keep a surplus of queens till fall. Had I better make some small frames for this purpose? [No.] Will you cut stuff for any size frame? [Yes.] But before I say any more, is there any better frame to begin with? [No.] Does tin answer well for roof of hive? [If painted.] Should a hive have a portico? [No.] How much room above the frames should we have for tucking the quilt in? [1 inch.] Can we feed too much rye flour to bees? [No.] I am anxious to begin with a good frame and hive, and am studying hard. One thing bothers me. You say Langstroth frames are 17⅝ inches long, but (Langstroth's book page 372), the bill of stuff cut for frame will not make it more than 17⅜; did Langstroth ever alter these dimensions? [No.] If not why do you differ from the book for a standard size? HARRY S. MERRICK.

Brownsburg, Pa.

[Our measurements were taken from a frame sent us by Mr. Langstroth, by particular request, and we have the frame now in our possession. The L. frames in use, or in use at the time we tried to establish uniform dimensions, were found to vary from 1-16 to several inches, both in width and depth. We have now a set of guages made in such a way that any frame we send out shall not vary the 32d of an inch—we hope—even should several years elapse between the orders.]

---

I have 20 Quinby closed end hives, and *never used smoker but once or twice last year*, and have some cross hybrids too. W. G. SMITH, St. Louis, Mo.

---

I got 100 lbs. of best sugar candy made at the confectioners at 14 cts. per lb. It is much nicer than liquid feed. GEO. L. GAST, Le Clair, Iowa.

---

I have 25 swarms which I wish to Italianize. Will Italians work on red clover? and will they keep the moths entirely out of the hive? Will the workers raised from queens reared from your advertised larvæ do all this? K. BARBOUR, Alamo, Mich.

[Most assuredly. Both points have been fully proven in thousands of instances. The matter can be decided in a few minutes in any locality where Italians are kept, by simply opening a hive, or going to a clover field.]

---

I see Mr. Doolittle seems to have good success using frames 10¾x10¾, eight in number; do you think it would be safe for me to use hives with that number and size of frames in this state, or would they be in danger of starving through the winter? D. WOODBURY, Huntington, Mass.

[If the eight frames were well filled with stores, and the colony not unusually large, they would be in no danger of starving if looked to in April. Mr. Doolittle is a very skilful and careful man, and succeeds with such a small hive, when careless people would not.]

---

Is Langstroth's method of contracting the entrance to prevent swarming, recommended? Your method is to carry the parent hive to a new place and return the swarm. Immediately? or after "three days?" How about the bees returning from the field and finding their hive gone? Can you recommend Mrs. Farnham's non-swarming attachment? J. H. PARSON, Franklin, N. Y.

[In a later edition of his work Mr. L. himself pronounces the plan of contracting the entrance a failure, so far as prevention of swarming is concerned. And although there have been many patents on the idea since, all we believe are now dropped. There are usually so few bees out when a colony swarms, that the returning bees, if they do not hear the call of their comrades and join with them are of but little account. The hive need not be moved more than 10 or 20 feet, to satisfy them, and then all will find it. The non-swarmer mentioned, has with all the rest, we believe, gone into oblivion.

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I have three stocks of bees which I notice have dysentery badly. Is there a remedy? or will I have to let them make the best of it. I am a young hand at bees. S. M. PEACHEY, Allensville, Pa.

[We really know of no sure remedy except warm weather. If that don't come, *perhaps* artificial heat may answer, if they can be allowed to fly inside a cage made of gauze or wire cloth. Removing the top and allowing the sun to shine directly on the cluster has a very beneficial effect when the weather is warm enough. As a preventive, be careful to guard against unsealed and watery food for cold weather.]

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I am just going into the bee business and want to start right. I will therefore follow the teachings of GLEANINGS, knowing many who have been rewarded by so doing. H. F. GIMISON, Adams, N. Y.

[We have had many encouraging words, friend G., but none more acceptable than the above.]

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Will the comb foundations answer as good a purpose as the natural comb for starters in section boxes? Would you run them (a strip say an inch wide) from top to bottom, or fill the box with sheets? F. H. GATES, Chittenango, N. Y.

[Notwithstanding the quantity that Mr. "Long" sent out last season, it seems we have had very few experiments with the foundations, for comb honey. We can not answer questions from our own experience, but advise all, especially our Southern friends to test the matter and report as soon as possible. We have noted that where the combs are fastened at the bottom, there is almost sure to be bagging or bulging, when the cells are raised; and where they are left hanging, there is a tendency to twist about, unless the bees commence all over the sheet at once.]

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You say, (commenting on my letter in March number) cotton rags saturated in saltpetre are "expensive." Not very. I usually take an old book and saturate the leaves in a solution of nitre, and dry. One or two leaves thrust into a bellows smoker are sufficient for a single hive. A book is convenient to carry in the pocket.

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What is the customary way of renting bees? Please give details. S. W. HALL, La Moille, Iowa.

[We believe the old way was for one party to furnish the bees and and another the care, skill, and hives, both sharing equally in the honey and increase. Since the time of Italians, and hives that are a trifle more expensive than the old boxes, things are somewhat different and we know of no better advice than to agree about the minor points as best you can. Be careful to have it all plainly understood, or you will have "onpleasantness;" and in view of the complaints that have been made in such cases, we would advise the one who has the skill, to buy the bees if he can. We think you will find it the better way.]

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I want to know if bees are taxable property, as our assessor says he is going to assess our bees in the spring. G. M. DOOLITTLE, Borodino, N. Y.

[We consider bees as much taxable property as any other kind of stock; and although one of our assessors some years ago thought, as they were not specified they might be left out, we desired him to assess them as he would other property, and such has been the custom here ever since. If an assessor does not know his duty, it seems to us every loyal citizen should take pride in abiding by the true spirit of the laws that protect and govern us. If he is out of pocket thereby, he is at least adding his mite toward making a nation that will stand, in spite of all the corrupting influences that may threaten it.]

I see you have opened a department in GLEANINGS for answering questions. Bravo! I could now swing my hat. What is the space beneath the metal rabbet and the inner end of hive for? Can not a hive of ½ inch lumber be used with satisfaction without doubling the ends, by rabbeting out top of ends to ¼ inch? And if that would not do, why would not a metal rabbet fastened on with small screws to the end of hive do, without the inner end board? Can you give your readers the gist of the receipts in the candy book, without compelling them to pay each their 50c for the same? I think such information would be very acceptable to the majority of your readers or their families.
ALEX. WILDER, Sandwich, Ills.

[The space beneath the rabbets is to allow of the screws being drawn up slightly, should the hoops ever shrink so much as to allow them to get loose. Hives can be made of ½ inch stuff, but it is rather close work; remember bees will fill up with propolis any place they can not crawl through freely, and the channel in the rabbet must be large enough to allow them to promenade through it. If the rabbet is fastened on the end of the hive it will be always killing bees unless great care is used when the frames are lifted out, or you will have bits of comb built between the ends of the hive and ends of frames. We have had hives in use several years, that have embodied all these points. The instructions we have already given in regard to candy making will usually suffice; but it is quite a satisfaction to know the reasons and full details, that are given so pleasantly in the book mentioned.]

Just a word to those who are doubtful as to the success of bee-keeping for the future. To me the prospects were never brighter. The fact that unwarranted extremes have been advocated, was proof positive that some, as we now see, would fall back to the other extreme and under-estimate the real position. All this will tend to place bee-keeping upon the firm and sure basis we have abundant reason to expect it will occupy.
L. C. ROOT, Mohawk, N. Y.

I now have 24 bee-less hives, and the 25th contains the remains of four stocks all doubled into one, and placed in the cellar, more from feelings of humanity, than from any hope of profit from such dilapidated stocks. So my apiary that now makes the air vocal, presents this equation: No. of stocks=95—25=70. Bees carrying in natural pollen.
D. P. LANE, Koshkonong, Wis., April 12th, '76.

A queen which we had hatched Feb. 27th, has sealed brood and plenty of eggs; showing conclusively that she is fertilized. STAPLES & ANDREWS, Columbia, Tenn.

[Queens have been occasionally raised in March in our own locality, when the weather was very favorable, but we think it unsafe to offer them for sale here before June; *you* might perhaps safely agree to furnish them a month earlier.]

Commenced last spring, with four weak colonies; took about 200 lbs. extracted honey, and increased to 10 colonies. All but one are doing nicely at this time.
E. T. FOGLE, Hartsville, Ind., April 11th, '76.

Took my bees, 63 colonies, out of cellar on the nights of the 7th and 10th. Found them all in fine condition apparently, though I have not opened and taken the straw out of the hives. In the cellar there are but few dead bees on the ground. No colonies deserted their hives in their first flight. Last fall I put them all in as perfect a condition as I knew how to do, and they seem just as healthy and strong now, carrying in pollen nicely.
L. C. AXTELL, Roseville, Ills., April 11th, '76.

Please give us some ideas concerning vinegar from honey; whether profitable or not, and its quality as compared with cider and other commercial vinegars, and greatly oblige a subscriber, who appreciates the tone of your journal but who wishes no name published.

[We have nothing farther to add to our remarks on page 156, of Dec. No. Can any of our readers tell us, in regard to the quality? We will start some at once, from both clover and linden honey, and report next month.

Is there any Canada thistle seed in your Alsike clover? Would not a lamp nursery made by fastening a two quart pail into a six quart pail and filling the space with water, answer the purpose, cutting out the queen cells and hanging them in? L. Z. JONES, Galva, Ills.

[We most certainly will avoid any risk of sending out Canada thistle, or other dangerous seeds; and to that end, we purchase seed raised in our neighborhood. The two pails will answer very well; but one great aim of the lamp nursery, is to avoid cutting the combs as we are obliged to do in separating the cells. We think your arrangement should at least be large enough to take in one whole comb.]

I am a new member of your family, as you sometimes term it, and would like to ask you if I had better make my hives for side boxes. I use 10 frame L. hive with a capacity of about 45 lbs., box honey, above the frames.
WM. R. EDWARDS, Skaneateles, N. Y.

[We believe it is pretty generally agreed that side boxes have no particular advantage over top boxes, unless it be that a greater number can be put on at the start, thereby avoiding the necessity of tiering up, etc., while the work is in progress. By removing all but 7 frames in the Universal hive, we can put 20 section boxes at the sides, besides the 30 on top; and if we are to accept Doolittle, the 7 frames are better than a greater number for the brood apartment, when the bees are at work in the boxes.]

Will it make any difference about the foundations (Long's) being put into frames so that two sides of the Hexagon shall be horizontal instead of perpendicular as the bees build it? [No.] Do you consider the candy described in GLEANINGS equal to any other feed in the spring, to stimulate breeding? [Yes.] Will it pay to fill the boxes entirely with the foundations? [Not been fully tested.] J. F. SPAULDING, Charles City, Iowa.

I have successfully wintered some two comb nuclei, and think it pays; as I found one of my best stocks queenless. I can give my plan for wintering them if you desire it; it might not work so well in a cold winter or in a colder climate.
ABNER ALLEN, St. George, Kan., Feb. 14th, '76.

[Tell us if the two comb nuclei came *clear through* all right. If it could be managed, it would certainly be a great achievement; but many are the failures that have been made in attempting to winter a considerable number of such.]

How many pounds of candy will it take per month, for one colony of bees?
WM. L. HIRLINGER, Coles Creek, Pa.

[A heavy colony with no stores, would require, perhaps 10 lbs. of candy from Sept. until April; and from April 1st until June 1st (supposing we have the most unfavorable weather that can be expected), they would not require, to exceed 10 lbs. more. With such provision, we hardly think starvation possible; and if half your candy should be left unconsumed in the spring, it will be all right for the next season.]

Have shipped some queens already, which reached their destination safely. Shipping a lot to-day.

WM. J. ANDREWS, Columbia, Tenn., Apr. 17, '76.

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Bees wintered well in cellar, but not well in bee house. Five out of 20 dead in latter.

H. H. ROSEBROCK, Owatonna, Minn., Apr. 11, '76.

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What is the best way to get comb honey? Which are the best and cheapest boxes?

T. BICKERTON, West Elizabeth, Pa.

[Section boxes described in this number.]

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I received some sample comb foundation from you a short time since, very perfect and nice. Received some from C. O. Perrine, which was quite imperfect, and very inferior to samples sent by you.

H. R. BOARDMAN, East Townsend, O., April 20th, '76.

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Just heard from some of my honey that was shipped from Shreveport, La., to St. Louis, after I saw you at Medina. The gentleman wrote it was called superior to any Northern honey ever shipped to that place.

C. R. CARLIN, Quincy, Fla., Apr. 17th, '76.

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Our 58 colonies came through in fine condition on summer stands. We have four barrels of honey in St. Louis, for which we want 10c per lb. Send a buyer to our agent W. M. Price & Co., St Louis, Mo.

T. E. HAWKINS & BRO., New Frankfort, Mo.

## FOOT-POWER SAWS.

A LITTLE over a year ago, I obtained a foot-power mill from Combined Power Co., New York, the same as cut on cover of GLEANINGS. Perhaps a little of my experience may be of some advantage to you, or some of your readers. Now I don't propose to find any fault with the mill; it is a perfect success for short light sawing, and the company have dealt with me so far, like gentlemen. But I soon found that for cutting and ripping pine boards ⅞ inch thick and 12 inches wide, it was anything but *easy* for a man of my weight—140 lbs. When I worked that mill fifteen minutes sawing or ripping top bars for frames 19 inches long, from boards ⅞ inch thick, I was willing to stop just a few minutes for a rest. All kinds of power came into my mind, horse, wind, steam, etc., but I was forcibly reminded of man-power especially, while treading and trying to keep up motion. Last fall I attached a crank power to work in connection with the tread: it a little more than doubles the power and capacity of the mill. You would be surprised with what facility and how rapidly you could rip a board five or six feet in length, and continue to do until the hand at the crank gets tired. With ordinary light sawing, the man at the saw has perfect control of the speed or motion of the same. Two men, each capable of feeding the saw, could change from saw to crank and do as much work in a half day, and easier, as one man could do in two days.

I have also made a sliding frame or carriage about 4½ feet long, that slides upon the table so that I can place a board five or six feet long upon the table, hold it with perfect ease and cut it into any desired lengths; this carriage runs on guides and can be taken off or put on at will. If for very light sawing, I want to use the tread independently of the crank, the latter can be thrown out of gear in a minute. I will cheerfully give an explanation of my plans if desired. The two attachments will not cost over $7. or $8.00.

JOHN NOBLE, Eureka, Wis.

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I am very much interested in your trial of the poot-power saws mentioned. One of my neighbors was at 23 Dey St., N. Y., a few weeks ago, and reported that he thought it would do all that was claimed for it. He said he couldn't see but that it run as easily when sawing as when not. As to the price, he thought it pretty high for so small and simple a machine, and yet he thought perhaps no higher accordingly, than we pay for our sewing machines. I had about concluded to get one, but didn't get round to it till I saw you were about to give it a trial, and also a much cheaper machine. I hope we may get a favorable report from the cheap machine.

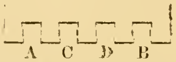
E. KIMPTON, Cedar Creek, N. J.

For sawing short work, such as our correspondent mentions, the high-priced machine has some advantages; but the small one is so much easier managed, and is so much superior in simplicity, that we think it will be much the most advisable for bee-hive work. So well are we satisfied of this, that we offer the large one for $100,00 while the manufacturer's price for the same is $127,50. Either saw will make the Universal hive without trouble; and we are happy to add that our neighbor Blakeslee is making the universal section boxes with rapidity and ease, with a foot-power saw. To do this, you will cut your ⅞ boards into pieces just 5 inches long, and each piece is to have four grooves sawed in the end, of such width that we have left, five tenants of the same width as the grooves. If your saw is a thin one it can be given a wabbling motion by washers; so as to have it make a cut 1-10 of an inch.

In regard to making these washers, the saw manufacturers write as follows:

> We can make the washers of iron, but it is an unnecessary expense, as parties using can take a wedge wide enough (a shingle for instance) for two, split it, turn the thin ends together, make holes where necessary, and trim around the washers. Those made of wood will answer every purpose, and the expense is nothing; besides a pair can be made for each desired cut.
>
> W. F. & JOHN BARNES, Rockford, Ills., Apr. 15, '76.

We have devised a way of getting the gauge set for these cuts, by simply setting it twice, thus; set your gauge to cut A, accurately, and



by turning the board end for end, it will cut B, just right. Now, after you have done all your pieces thus, set the gauge to cut C, and it will be just right to cut D, when the piece is reversed as before. The pieces are to be ripped off about 3-16 in thickness, and of course your saw is to be arranged to cut to the same depth. As every one of you who have the foot-power saws can make your own sections, we see nothing to prevent their coming into general use; no nails, and the pieces can be put together by a child after a little practice. Should your saw cut the grooves too wide, the sections will not hold together, and if too narrow they will go in too hard. Set your saw so they will be rather loose, holding an oilstone at the side while it is run slowly, until it makes a cut of just the right thickness. When cutting the strips off, if you wish to have them as smooth as if planed, sharpen your saw nicely, and use the oilstone as mentioned, on the sides of the teeth; if used too much in this way, it will destroy the set of the saw for sawing long stuff.

It may not be out of place to state that the scroll saw attachment to the Barnes saw, we at first thought we did not want, but our 13 year old young hopeful got his eye on it, and ere many days he and his cousin a year older, were doing a smashing trade in everything in the way of brackets. Some of the work they do, would pass very creditably in any of the furniture stores. If you have boys that you wish kept busy, add the scroll saw attachment; there is no end to the beautiful handiwork they can produce.

Instead of making our frames with the mitre joint as heretofore, we now put them together as we do the section boxes and if the work is done nicely a very good frame can be made without using the bottom corners, for there is very little tendency for them to pull apart after they they are waxed over by the bees. By driving a very small brad each way, it would make this secure but the frame is not nearly so stiff and rigid as when the corners are used all around, especially when one wishes to rest a heavy frame on one of the lower corners while uncapping. The new way of making the frames is much the cheapest, for after the ends of our boards are grooved, we have nothing to do but to rip off the pieces. We have this week sent such frames by express to the extreme Southern States, and yet with a $35.00 buzz saw they could be made at a good profit at the price we sell them for, and they *should* be made near at home to save the very expensive express charges. To assist such enterprises, we will make the metal corners for 75c. per hundred to those who make frames for sale. As an evidence that you are entitled to this discount, we shall require one of your printed price lists with your order, or that you send us your name to put in our list of hive makers for one year. Frames without the metal corners, 5c. each. Mr. Langstroth objected to the plan of having hives and frames made all over the country, because they would not make them exact, but with our new way you have only to saw your boards off the precise length you wish the sides and ends of the frames. and they are sure to be right. For instance, for L. frames you are to cut the boards up into pieces just 17$\frac{5}{8}$ long for tops, and 9$\frac{1}{8}$ for ends; if you cannot do that with a buzz saw you are certainly to be pitied. Perhaps we should add that the grooving for frames must be so as to give 4 grooves and 4 tenants; *we* use 4 saws for the purpose and finish the whole at one operation.

[For Gleanings.

## LAST YEAR'S BEE-ING.

BY A. W. LULCK, OF MAYVILLE, WIS.

MAY can well be said, to be the January in the calendar of the bee-year; at least for this section of the country. At this time we have completed the cycle of bee-business, and should be ready to commence *de novo.* But before going ahead it may be well to review the doings of last year.

We kept bees for several years, not as a business, but for recreation and amusement, but never had above five hives in the fall, and in spring this number was generally reduced to three, two or even one. We never used the extractor except last year, but obtained usually from 30 to 40 and one time even 72 lbs. of box honey from one colony. We used a modification of the "Diamond" hive; wintering them out-doors. In the fall of 1874, we had four colonies, prepared for winter as usual by packing dry hay on the tops of the hives, and around three of their sides. However in spring 1875, only one colony of these was alive. We now resolved to change the hives and winter in-doors. The "Standard" was adopted, of which we had been told so many good things in GLEANINGS. In the last week in May we bought a colony of Italians, and had them transferred into the "Standard." A few weeks later we transferred our black colony to the same kind of hive. When buying the Italians we also bought an Italian queen. We gave her ladyship a hive with empty combs and set it on the stand of our black colony, which we removed a few paces; by this process we secured bees enough for a good sized colony. Thus at the middle of June we had three colonies in a fair condition. By the judicious use of empty combs, from these colonies, that had died during winter. we kept increasing them up to ten. We did not work them for box honey, however we extracted over 450 lbs.; of this nearly 200 lbs. were from basswood. This honey sold readily at 20 cts. per lb., so that before Christmas we had sold all we could spare. The last extracting wo did in the middle of August, and on the 22d of the same month we had such a cold night, that the frost killed nearly all vegetation. Our bees now hardly made a living, and in October we found, that only two hives had stores enough for their inmates during winter. So the others we provided each with a Universal feeder, and fed back to them a lot of the last extracted honey. We used this honey in preference to sugar syrup, because it was hardly marketable; being gathered partly from buckwheat and partly from worm seed (*chenopodium anthelmintium*) it possessed not only a dark color, but also the strong and peculiar flavor of this last plant.

On Nov. 13th, we housed our bees in a cellar built for this purpose partly in and partly above ground This house or cellar had a chimney 5x6, which was left open all winter, except on stormy days. Through this chimeny we had a thermometer suspended one foot from the floor. By pulling it up we could at any time know the temperature of our bee house, without openining the door or disturbing the bees in any way. In fact we opened the door only twice during the entire winter. The temperature in this house was very steady during the variable changes of the last winter. The thermometer never went below 33° nor up to 40°. This temperature is lower, than that of an underground cellar, and our bees did not breed before we put them on their summer stands, otherwise they did very well. There would be hardly more than three pints of dead bees on the floor. A neighbor of mine, who had five colonies in a clean dry cellar, told me, that he had more dead bees from his five hives, than we from our ten.

March 10th, was a real summer's day, and out went our bees. They seemed to enjoy bathing themselves in the glorious rays of a vernal sun even more, than Dr. Kane after the long. dark and dreary Arctic night in his north pole expedition. On looking them over hastily, we found that one colony was on the point of starvation, and four others nearly out of stores. Of course, we supplied them. The next day thermometer went down and in went the bees; there they stayed until April 7th when we took them out permanently for a summers work. We found one colony queenless and united it with another. thus leaving us to begin the new bee-year with 9 in fair condition.

We heartily endorse the idea of calling the 1st of May the new year, in bee-culture. Say you commenced May 1st with so many, etc., and then it will be recognized that wintering ends only with that time.

The Universal Hive arranged for standard frames, is virtually the same thing as the Standard hive, except that it contains 13 frames instead of 20. As it is very much lighter to handle,can readily be used two story, is exactls right for a case of universal boxes and is considerably cheaper, we think it must be preferred to the Standard hive we have furnished heretofore.

GLEANINGS IN BEE CULTURE.
Published Monthly,
A. I. ROOT.
EDITOR AND PROPRIETOR.
MEDINA, OHIO.
Terms: $1.00 Per Annum.
[*Including Postage.*]
*For Club Rates see Last Page.*

## MEDINA, MAY 1, 1876.

HE that gathereth in summer is a wise son: but he that sleepeth in harvest is a son that causeth shame.
—Prov. x, 5.

ARE you ready for the harvest?

A ONE story Universal hive without frames was sent to California safely by mail, postage, $1.44.

WE are informed there is a *patented* hive called the Universal. What troubles we do have.

A discount of 20 per cent will be allowed to those advertising our Extractors on their *printed* price-lists.

To those desiring queens, we can cheerfully recommend E. W Hale, of Wirt C. H., W. Va. We have special reasons for thinking those who order of him can be sure of getting just what he represents.

*April 27th.* Bees are bringing in pollen b-e-a-u-t-i-f-u-l-l-y, and those outside are certainly working better than those in the house apiary. Wonder if a frosty night don't give them more energy after all?

THIS is the month for transferring in our Northern states. For directions see pages 33 and 64, Vol. I; page 100, Vol. II; page 64, Vol. III, and page 52 present Vol. If possible do it when the fruit trees just commence blooming.

VISITORS many times want a veil, and it it is rather expensive to keep many on hand of the best kind. We have just succeeded in making one for 50c., all of tarletan—no lace—and they answer every purpose, unless one is hunting queens or "looking" for eggs, etc., and even then they are but very little inferior to the lace faced ones.

WE would call attention to the fact that a lady has entered the list of those who furnish $1. queens; as her father is perhaps the most particular apiarist of our acquaintance, in regard to the marking of both queens and workers, as well as to their industry, we think her queens will be sure to please. Their apiary is composed entirely of choice queens.

REMEMBER that for one name besides your own, and $1, we send you as a premium, post paid, Lithograph of Hexagonal Apiary, Photo of House Apiary or Novice and Blue Eyes; your choice of three. If it is too much trouble to get a subscriber, subscribe now for next year; it don't make a particle of difference to us so we get the $1. We will make the same offer to any present subscriber who sends us 75c. for either Vol. I. or II. Vol. III., we are sorry to say, is all used up, except a few odd numbers.

J. H. NELLIS' new price list is really worth a perusal; it gives one an idea of the progress of our industry, if nothing further. We are pleased to note a lamp nursery or incubator for $4.50, including thermometer. If this is as good as ours, it is 50c. better than we can make them. We now add to ours a lamp holding a gallon. Friendly competition is the life of business, and we are always glad to see good work at a low price. Mr. Nellis is one of our most successful dollar queen rearers.

WE have said nothing in regard to the Cyprian bees, because we think it best for one or two to make a test of them before many are induced to invest, or before much space is occupied with them in our journals. Fancy stock and fancy prices, are getting to be almost a species of gambling; shall we not move slowly, and take good care of what we have already that we *know* is good? We will give $25. for a genuine Cyprian queen, as soon as one is to be had for the money, and will test and report as carefully as we know how.

CAN nothing be done for our friends in ordering Extractors to induce them to give the size of frame or frames they use? It is true we might send you the largest size, but how would you like it if your frames should drop clear down to the bottom instead of hanging nicely in it as they do in the hive? An order yesterday by telegram for 5, compelled us to hunt over old letters for an hour before we could tell what to send, and another to-day took a longer time and then obliged us to give it up and make him wait until we could write and ask him.

NOW friend Moon you shouldn't speak so of Ed. *A. B. J.*, even if he *did* say the *Am.* was the only bee-journal in America. He certainly did not mean to insinuate there was not a *World*, a *Mag.* and a——*Gleanings.* To be sure not. Besides, *we*, have got a permit from the "Patent Office" to do all the quarrelling during this centennial year, that is to be done among "bee-folks;" if any body infringes, *wont* we just "prosecute 'em?" May we just whisper that it may not be best for *any of us* to advertise the *best* journal in America; if we have it, these young Centennials will soon find it out, and they never keep anything to themselves.

THERE is one trouble with the house apiary that we have never seen mentioned, and that is the fashion the young Italians have for pouring out at the top of the hive when it is opened for an examination. This does no hurt only that when you get through, you have a shower of bees that are determined to return to their hive at the very spot they came out, and after you have driven them out with a brush, they will sometimes hang about the door for an hour or two, and it is doubtful if they all regain their hive at all, if the entrance happens to be at a distance from the door-way. With out-door hives it matters not where they get out, they always find the entrance.

WE have answered a good many questions this month, is it not now our turn to ask a few? We would like Mr. Palmer to tell us how his nice wintering house that he was building last fall, has answered.

And will James Bolin tell us if he has succeeded as well in wintering, this warm winter?

Also, will L. C. Root tell us if he has again been as successful in wintering?

We plead guilty to the charge of Capt. Hetherington, and *now* ask what his honey crop was last year, and if he will be so kind as to also state the number of colonies he had May 1st?

Will Mrs. Stibbs and all others who have the house apiaries please tell us how their bees have wintered?

Will Prof. Cook tell us something about the dormant state of insects in winter?

Will all the rest of you when convenient, mention how you like a Journal made up of a great number of short letters from many different localities as is this one?

## Death of Adam Grimm.

A. I. ROOT, *Dear Sir:*—From the enclosed advertisement, you will see that my brother Adam is dead! He died at the village of Jefferson, April 10th, of congestion of the brain, his age was 52 years.

He was born in Germany, and emigrated to this country in 1849. He devoted half of his time to bee-keeping. When he was a boy and attended school in Germany, he spent all his leisure hours with his bees. After emigrating to this country he was more extensively engaged in this business, and pursued it with great energy and love, until his death. He was confined to his bed for only five days, but his health has not been good during the last year, and on that account he intended to sell some of his bees.

Last fall my brother put into the cellar over 1400 colonies of bees, and they came out in good condition, with very small loss.

I think you can without hesitation mark him as one of the pioneers in bee-culture in this country, and as one of the most successful in the world.

Adam Grimm, my brother, has been a contributor for many years to the *American Bee Journal*, but had to quit on account of failing health and the Banking business in which he was engaged.

Yours Respectfully, C. GRIMM.

Jefferson, Wis., April 14th, 1876.

[Another of our most valued veterans is gone; and we fear, one whom it will be hard to replace. Perhaps no bee-keeper in our country or any other, has for so many years made the business a steady practical success with so large a number of stocks, as has our departed friend; and what is of still more moment, perhaps none among our number have held more faithfully the respect and esteem of all. His personal importation of the real Italians, might be mentioned among his many other energetic and successful ways of doing things. As we bow our heads submissively to the blow that has fallen on us all, can we not resolve to emulate that life of quiet industry?]

## VARIOUS ITEMS.

I tried making thin sheets of wax according to your directions in March No. but succeeded much better by dipping the glass first in strong soap suds, then in melted wax; try it.

I fastened some of these thin pieces about 2½ inches wide, in a Langstroth frame and put into a hive and fed the bees; in a few days I had a frame-full of nice comb, but they made some drone comb at each end of the frame; more than I wanted, and the queen has laid it full of eggs. My bees have gathered considerable honey the past week from fruit blossoms and wild flowers, principally the *Collinsia Vernia.* I wintered fifty colonies, lost one—let it starve. My neighbors gave me ten starving colonies last fall that I transferred and wintered successfully by giving frames of sealed honey. Some of my colonies have drones sealed over, and plenty of them too. The prospect is very flattering for a good honey harvest. White clover very abundant and vigorous.

J. B. Rapp ,Owensville,O. April 24 '76.

Plain sheets of wax can be made very rapidly with a little practice, by either of the methods, but we made the most beautiful ones with the soaped cloth. If you wish them of an even thickness, dip them twice and turn the top edge of the glass downward the second time. If you wish thicker sheets, dip several times. A sheet of pretty thick glass gives the best results. They may be made almost as smooth as the glass itself.

In spite of the excitement about box honey we are having a better demand than ever for extractors. We have just shipped the 5th machine this season to W. W. Oliver, Cornersville, Tenn, and he has been a customer every season since we commenced to make them. With the force now at work, we expect to be able to ship them generally, the day the order is received. The following is just at hand on a postal.

I received the extr. April 6th, in good condition; and in one hour after its arrival I extracted 10 lbs of honey to the satisfaction of all seeing it. It is all I could wish. I expect to take 3000 lbs of honey. Have 30 colonies. Got 900 lbs from ten colonies last year. Express charges on machine $2,00. H. Stevenson, Dardenne Mo. Apr. 22, '76.

Your type is large enough for me—would not like to do with less matter. But will cheerfully submit to the decision of the majority. W. GIRDWOOD, Allegheny, Pa.

[Thanks friend G., you are the first one among many in the matter, that has shown the spirit upon which our nation is builded. Cannot others follow the example?]

Case of Section boxes at hand; they do look as if they were at *last, almost* perfect. J. J. WHITSON, Valley Mills, Marion Co., Ind. April 24, '76.

## TRANSPOSING EGGS, AND THE DRONE THEORY.

There have been several apiaries started in this neighborhood. Messrs Ratcliff and King have one of 200 hives, and bid fair to do well in the business; also Mr Samuel Irvin has about has about 60 hives. I commenced later and have as yet only 22 hives to work on, which I am hoping to double the present summer. Dr. Hunter, my nearest neighbor, has about 20. We all use movable comb hives and are getting our bees Italianized as fast as possible, believing the Italians to be the best moth destroyers; they being the most destructive enemy which bees have here. In the March No. I see "Grafting queen cells" the honor of which discovery you give to J. L. Davis. I consider it a very valuable discovery which may be the means of many other developments. Leading apiarists disagree in regard to the drone egg; some contend that it is an unfertilized egg, while others conclude that all eggs laid by the queen are alike; the only difference being in the food given the young larvæ. Some contend that the reason that bees from a fertile worker's eggs are all drones, is that the bees are anxious for their fertilization. Now Mr. Editor this can all be fully tested by the grafting process; if drone eggs in drone comb, be grafted into worker comb, and placed in a hive where they are not over anxious for drones, and these hatch out worker bees, it will be conclusive evidence that the bees make the difference by the quantity of food given the young larvæ. On the other hand, should they come out drones, it will be conclusive evidence that a drone egg and a worker egg are differently fertilized. Now Mr. Root, you use a lamp queen nursery, and I call on you to test this matter, or to have it done by some progressive apiarian. This can easily be done; after the grafting process is over, place them in a hive with no other eggs, and when nearly hatched, place the comb in the lamp nursery and it will be very plain what kind of bees are hatched.

I venture to predict they will be drones. Then my theory will be, virgin queens and fertile workers are alike fertilized by eating in the worm state, of the royal jelly deposited in the queen cells; which jelly is fertilized by the drone sperm only, consequently they are only fertilized with the power of laying drone eggs, which eggs can not produce worker bees; this will also develop another idea in queen raising, if my idea is correct. You may place a comb of pure Italian eggs in a hive of black bees leaving none but black drones, the royal jelly used will be fertilized by the black drone, and although the queen may mate, on coming to maturity, with a pure Italian drone, her posterity so to speak, will be affected by the royal jelly which was eaten by her; especially her drone progeny. I know these are novel ideas, which will be objected to, especially by some Italian queen breeders; but facts, and well authenticated experiments of wise and honest apiarians, should alone govern us in these matters. I have an Italian hive of bees called pure, from which I intend raising queens this season; but I know it will be several years before I will be able to get all the black blood from them, even if I get an imported queen every year.

W. P. NELSON, Mt. Pleasant, Tenn.

The experiment you mention friend N., has been made repeatedly; and we believe that eggs laid in drone cells always produce drones, no matter where they may be grafted, unless we put them into a queen cell; in which case the poor drone flourishes finely for a while, and then dies, perhaps from too much rich food, like some other folks. Your theory does very well until you jump at the conclusion that the royal jelly is in some way compounded by the aid of the drones in the hive; which is an old and exploded idea given by one Kirby many years ago in the *A. B. J.* The details of all the experiments made, are too long to go over, but they indicate plainly we think,' that the royal jelly has no more effect on the young queen, than has the milk that is given an infant, on *its* development. You certainly would not hold that the human race was in danger of partaking of the nature of cattle, by bringing our infants up on cow's milk in place of that of their own mother? Well, the testimony is very strong, that royal jelly is to the young larvæ, just what milk is to young animals, and nothing more. *We* rear queens solely for honey producing bees, and not for sale, and yet we have never been able to see any difference between those reared by black bees, and those having Italian nurses.

* * *

## VOGEL'S HOBBY FULLY EXPLAINED.

"REMEMBER WE WANT TRUTH."—*Novice.*

THE bee-wall-halls can be built, either by piling or by compartmenting—and this latter is the best—so I wrote.

Now, "compartmenting" means dividing large cases by horizontal and vertical partitions into as many rooms or cells, as hives or colonies are wanted, these compartments being so produced and arranged with "walls in common" for each adjoining hive-room (like the cells in the comb or the pigeon holes for the letters in the post-office) which economy of space, material and work renders this class of bee-homes the easiest, cheapest to build, the most concentrated and the best one in every respect—the most recommendable—(by long and large experience with several, and one of 103 colonies,) and therefore this, not the piled one, is my real hobby. So we have the choice of 3 classes of bee-houses or bee-halls.

I. The bee-shops like Coe's, Faulkner's and many others, a mere receptacle, or depository, or extra house, built for hives put upon shelves—costing double and treble expense, 1. first for the house, 2. for the hives, and 3. the shelves—therefore most expensive in space, work, material and money—but best for those who have already, or prefer their Universal or other top-opening hives. A long known, old, common fashion or style of house-apiaries, it is in much danger from moth-millers and other inconveniences, and so by and by given up for better No's II. and III.

II. The hive-wall-hall—a hall with from 1 to 6 walls, built by hives, (single or compound ones) piled in 2 to 6 rows upon one another so as to form a closed room (standing free or combined with some other building) so the piled hives build the walls and the hall—no extra house needed, and so much cheaper and better than No. I., and very recommendable, mostly for moving often—selling out! and for traveling apiaries.

III. The comb (or cell) or very bee-wall-hall—a hall with from 1 to 6 or more walls filled with bee-colonies in compartments, separated only by partitions in common, dividing large cases into hive-rooms, as above explained, a house, with its front-boards outside and with its shelves inside building all the hives, and not, like No. II., built *by* hives, nor, like No. I., built *for* hives. So III. needs no single hives at all. The front or outside, is closed with boards (and these in winter sheltered by a hardy curtain) but the inside or rear is covered with glass doors (besides glass slides) one for each cell, compartment or hive-room, containing a colony, or one of all these U. S.—a Union Apiary, truly!

So the Bee-Halls I., II., III. can be made Sweet Homes—inside looking like Glass Palaces—the bees all at once in sight! and the Beewall-Halls II., III. may become even Bee-Wallhalls, yea, a very Elysium for the bees and keepers, dwelling in the midst of nectar, ambrosia and happiness, like the heroes in the Everglades,or in the Old Saxon Wallhall!

Remember: III. makes the cheapest, best and fairest of all the *Bee-Temples*, which name may be given to every bee-house (classes I., II., III.,) if well shaped, well attended, and piously devoted to no other but true (humane) bee-culture, carefully keeping these lovely companions from Eden as one of Heaven's best gifts to mankind, learning wisdom (so admirably taught) from this wonderful book, obeying His laws, fulfilling His intentions—and worshipping so our pets' Guardian and Creator!

Now call it my hobby or even "folly," I don't care, for—since now published—I am sure it will soon run like Fisk's and Fulton's! See! my prophetical tidings: in *A. B. J's* waste-basket, since March 1875. (before Coe's!)

N. B.—The general introduction and imitation of the top-opening hives for only "supposed easiest" moving the combs (frames), till now considered to be the best improvement and a great progress of real value, was a real bad luck botch and blunder, and the greatest drawback for general progress and success of Apiculture in this country. Top-opening fashion is for many reasons the worst kind for the safety and welfare of bees and beekeeping,—as truly as I told you the real cause of the foul brood—and is a main cause of the general failure of "modern" bee-culture in this country, losses and disgust being the rule, and hardly 10 per cent success the exception. Top-opening orthodoxy prevented till now, in this country, my proposed progress to perfection.

Rear-opening hives are the easiest to handle, if well built, and with *tongs* [not tongues!] it is a pleasure to take out and in all the frames. Rear-opening is the best manner in every regard, for the bees and keepers. Down with the prejudices and that bugbear difficult operating! Try it well and you will find it so! I could convince you with lots of good reasons, but GLEANINGS and maybe others don't like my "lengthy writings—of no real value!"

Oh, I'll show you—as soon as I can sell out here, in order to begin my Bee-Mission in a more sunny home, like California. To this end, dear friends, please to read my advertisement in this No., and help me to find a buyer. Truly your B. T. [Prophet, Priest and Knight] Apiphilus M. VOGEL, Boyne, Mich.

# Heads of Grain,

## FROM DIFFERENT FIELDS.

I FOR one am not willing to forego the pleasure ot seeing my bees at work in the boxes. I want to see when they commence work, to note the progress they make, and know when the boxes are full enough to raise up and take off. I don't believe a hive can be made to *just* suit, for box honey, and yet be *just* the thing for the extractor. You say you are about to do away with feeders. Do you mean to say that candy, or loaf sugar, is just as good as liquid food to stimulate breeding in the spring? or don't you resort to feeding for that purpose?

E. KIMPTON, Cedar Creek, N. J.

By simply raising the quilt, you can see the bees at work in all the section boxes at once, and as it can be instantly closed without danger of killing a bee, we don't see what more can be desired, or why glass need be used until the boxes are removed from the hive. We regard the universal hive as perfectly adapted for both comb honey and the extractor. We do regard candy as just as good for stimulative feeding, as and liquid food; but the loaf sugar does not seem to work quite as well in warm weather, on account of getting down on the bottom of the hive. During cold weather the moisture from the cluster softens the sugar so that it is taken before any is wasted; but for summer feeding we fear we shall have to use the candy. Cakes of maple sugar work beautifully, and we suppose all that is needed is to get our sugar of commerce—either white or brown—in the form of cakes like maple sugar.

This seems an easy matter, yet after all it is some bother. To feed the candy or sugar to advantage, a close fitting quilt should always be tucked over it. This can be done with perfect satisfaction by means of an extra hoop, such as we furnish to hold the quilt; but the quilt needs to be extra large, or it will leave openings at the sides. The first time such a large quilt is put on, it seems difficult to get it tucked into place, but after that, it will go back without trouble. In opening the hive, leave the quilt hanging by one corner if possible, and then it will be easy to get it back as before. One who has once used candy or cakes of sugar in this way, will never more wish to bother with tin, wood, or cloth feeders, and their attendant stickiness. The arrangement of the covers to the hives, in the house apiary, will admit of several lbs. of food on top of the frames,and yet the cloth will close over it, without permitting a bee to get out.

White clover is beginning to blossom. Many colonies of bees have died here during the past winter, yet neglect was the sole cause. I positively assert that in this latitude, bees winter successfully *every time*, if but three conditions are observed, namely: The hive must be strong in numbers, there must be an abundance of honey, and it must have a young queen.

FRANK BENTON, Knoxville, Tenn.

P. S.—I have lost no colonies in wintering—even wintered on their summer stands, two queen rearing nuclei, with frames 8x10—all that I attempted to winter..

The three volumes GLEANINGS came to hand a few days ago. From my examination thus far, I can only say I am *highly pleased with them*. Yes, and the lithograph of apiay is ever so nice, and I now have in my minds eye—an apiary in the form of a hexagon, with grape vines, etc., saw dust and all. You may think I'm "building castles in the air" as I now have only four stands of black bees, but never mind, "when there is a *will* there is a *way*."

Last spring, I got two stands of bees in box hives, transferred them into movable comb hives. I could get no one to make the hives for me, so with saw, square, hammer, nails and rough boards, I made (with some help from husband) four new hives, with loose top and bottom boards. Bees did well—we, and our friends had "lots" of honey to eat. None of our neighbors have bees, so we will have no trouble from want of pasturage.

JENNIE JEWETT.

White Salmon, Wast. Ter., Feb. 1876.

A woman who has the perseverance and energy to make, or direct the making of her own hives, can certainly become a successful beekeeper if she wishes to. And we shall be very glad indeed, to hear how the hexagonal apiary flourishes in the "far west."

Transferred my single stand from a common to a "Simplicity" hive on Saturday. They seem to be working right on. It was a very strong colony with about one-half bushel of bees, with plenty of brood comb and but very little honey. Have given about four table-spoonfuls of syrup daily to encourage them. Would it be asking too much, to request you to tell me where to search for the queen? I am a beginner, and have yet to behold her majesty.

M. W. CHAPMAN, Mayhew Station, Miss.

Get your smoker all in good trim, or your pan of smoking bits of rotten wood, as the case may be, and place it near the hive. Now turn up one corner of their quilt gently. If they show fight, drive them back with smoke, but don't smoke them at all, if they seem inclined to be "reasonable." After the quilt is clear off,let them remain quiet, perhaps a minute, just long enough for them to get a full view of what is going on, and meanwhile fix your eye on the comb that seems to contain most bees; now push the combs at the sides of this one back a little, that you may be able to raise it without any jar or disturbance. After you have it in your hands, step away a little, that they may not feel quite so much at home as when in sight of their hive; hold the frame up to the light and look over both sides of it carefully. You will probably find her among the brood, and the center of an admiring circle of bees. If not on this comb, she will be pretty sure to be on one of the other brood combs. If you have never seen a queen, you are to look for a long bee, not quite so long as a lead pencil, but considerably longer than a common bee; and when you find her, take a good look that you may know her next time. If you are careful, you can put them back without smoke and if they are busy at work, we can usually get along without any smoke, or vail either—our friend has the metal cornered frames. If you have frames that have to be pried loose with a snap, you will perhaps need smoke, and a vail too.

I have the hive, etc., by mail. Honey arrangement nice—can not decide on merits of hive yet—fear it will be too easily broken. I am charmed with the comb foundations. But it costs us only half to build comb here that it does East. I am sorry you could not manage to sell us combs or machines cheaply.

R. WILKIN.

San Buena Ventura, Cal., April 13th, '76.

My bees have wintered finely, none lost, all healthy. I have arranged my hive for out-door wintering; I call it the Centennial hive. The success I have had with it, warrants me in saying that any one can winter bees in it successfully in our hardest winters. I fed one all winter, once in five days. Kept away the pollen mostly, and they bred none til April 7th. Several things brought about the best result that I have ever seen in wintering; that knotty question, wintering, is solved with me. The Centennial does it most surely; those who visit me can see it.

John L. Davis, Delhi, Mich., April 10th, '76.

But friend D., if we are correct, you have *never* had any trouble in wintering. If the Centennial hive will enable us novices to winter as well, it will truly be a boon.

How would it do to form an artificial swarm by taking two frames of brood from a strong stock and putting them in an empty hive, with a fertile queen, and two frames of comb foundation, one at each side; placing the hive where the old one stood? Would this be drawing too hard on the old swarm? We might push the brood together, and put two frames with artificial comb at the side to fill the old hive again; or is it better to put them in the centre of the brood nest?

B. G. Stauffer, Bachmansville, Pa.

We made just such an experiment last fall, and the bees bulged the foundations badly, because they commenced work on one side only. We are inclined to think they should be placed in the centre of a strong stock. This plan of dividing is perhaps as good as any, if you can give both stocks a fertile queen at once. Has any one tried giving a natural swarm a hive furnished with foundations? If so, tell us how it answered.

What is the matter with my bees? No. 19, a good swarm with honey, bee bread, clean combs, clean hive, a fertile queen, eggs and brood, wintered on summer stand, came out March 30th, and went back. April 4th, came out again twice, and went back. April 6th, came out again, and No. 32 came out and went in with them. Found queen of 32 in front of old hive; caught her and put her in 19, and next morning she was dead. April 7th, 19 swarmed out again; also 36, both went into 19; 32 and 36 both left clean hives, honey, bee bread, larvæ and eggs. April 9th. No. 16 has honey, clean combs, bee bread, larvæ and eggs, but no bees; expect they have gone into 19 too, for it is a very strong swarm. Now can you assign any cause for such freaks? I never have had such luck before. Has any of your readers ever been so unfortunate? and what is the remedy?

Last spring, after losing 33 per cent, April 1st, 1875, I had 29 colonies left, worth $290,00. Extracted 1500 lbs. honey, sold at 20 cents, $300,00. Increased 25 colonies April 1st, 1876, worth without counting cost of hives, $7.00 each, $175,00. Total receipts from apiary, $475,00.

Our honey harvest lasted only a few days. Aug. 24th, I used the extractor first, and Sept. 8th, the last time. My best hive gave me 122 lbs. in that time.

John F. Lafferty, Martinsville, Ills.

We are sorry to say we can offer no reason for such conduct; and worse than all, we know of no remedy for a case like the one you have stated. We have been inclining to the idea that in-door wintering was one cause of it, but we fear we shall have to give even *that* up. Two of our own colonies that were in excellent trim, were found absent a few days ago, and as the robbers were carrying off their unsealed stores, we can only suppose them to have swarmed out and gone in with others, or worse still, to parts unknown. Glad to know you are doing so well in spite of difficulties.

P. S.—For some strange cause, bees seem inclined in swarming to cluster in some spot where other swarms have clustered, and hence the fatality attending "No. 19."

I have wintered 28 stocks out of doors, and all came through all right. Well Novice, you seem to have most everything necessary to successful bee culture advertised for sale, except cellars for wintering. I think if you could get up a good cheap dry cellar for wintering, it would be a good thing, as cellars are a scarce article out West. I say, go on with your experiments.

Ed. Wellington, Riverton, Iowa, April 11th, '76.

Very true, and we fear the most difficult part, is to have them *dry*. As we have now, pretty well satisfied ourselves that lots of bees is not always a preventive of the dwindling, we are going to have the subject of dampness for our next hobby. The bees that could see the stars all winter, "dwindled;" and some that had a piece of stout thick canvas over the quilt, got so damp and mouldy that *they* died in heaps. Those in the Universal hive, are so far, the most to our liking of any, for the animal heat of the bees seems to dry off the dampness from the thin unpainted wood, under all circumstances.

We are so much pleased with friend Cary's circular, that we give it entire. By the way, can not something be done about a uniform scale of prices? If all use imported mothers, there can not be a very great difference. We think these prices just about right.

### 16TH ANNUAL CIRCULAR OF ITALIAN QUEEN BEES.

To my patrons, and others, interested in Bee Culture. I commenced propagating Italian bees in May, 1860, and have pursued the business each year since. My first impulse was to breed queens with abdomens perfectly yellow. I attained that point in three seasons. I also found that my bees were not so strong and vigorous as they were at commencement. I then commenced to import, and to my joy found their former activity restored. I now breed from selected imported mothers from the best districts in Italy. Some of them cost me over twenty dollars each. Persons purchasing queens or bees of me will get just what they bargain for.

My hives are all numbered, and duplicate numbers put on each package, and a record kept of every queen shipped from my apiary. If any prove impure I shall know it before the purchaser, and give notice at once. All queens sold by me are warranted pure and fertile. Safe arrival by mail, or express guaranteed. In order that persons may avail themselves of this guarantee in case of accident, they must in all cases notify me by return mail.

### PRICE LIST.

One queen, whose worker progeny has hatched and shows all the desirable markings, when well filled with honey, $3,00. One queen, known to be fertile, which has filled several combs with eggs, $2,00. Ten, to one address, 10 per cent discount. I can furnish dollar queens. If you order such, remember there is no guarantee, except that they are from pure mothers.

Orders, with the cash accompanying, are recorded as soon as received, and filled in rotation. No preferred customers. Money can be sent at my risk by Draft on New York or Boston Banks, Post Office Money Orders, payable to me at Shelburne Falls, Mass., or Registered Letter.

There are so many methods for introducing queens, I feel very delicate on that subject. The first and most usual way is to first deprive the colony of their queen. Place the one to be introduced in a small wire cage; suspend the cage with queen between two combs in the most populous part of the hive by using a small wire. In 48 hours liberate her by opening one end of the cage. Use a little smoke to keep the bees quiet. If a colony have no means of supplying themselves with a queen, almost any method is successful.

Wm. W. Cary, Coleraine, Franklin Co., Mass.

I can *raise* comb as cheap as Perrine's prices.

G. M. Doolittle, Borodino, N. Y.

Can a young queen be fertilized in a cage, made light and airy, attached to a nucleus?

It will be safe to say *now*, that probably such a thing has never yet been done. Some of the parties were doubtless honest in *thinking* they had succeeded.

I saw a drone, in February. Is not their production at that time of year a strange freak of nature?

J. M. Moorhead, Guilford, Mo.

Nothing very strange, and probably nothing very encouraging. You had better look to the colony, for the indications are that the queen is a drone layer, and that you will lose the colony, if not soon supplied with a better queen.

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I think it would be a benefit to your readers, to ventilate the matter of chilled bees as presented by Davis in Gleanings. I believe that the "spring dwindling" is many times from that cause, though not as he puts it. My experience is, that if the whole cluster is to all appearance dead, the queen will ever after be barren. If there is a small ball of bees in the centre of the cluster with the queen, with just life enough to keep up a continual squirming, though not enough to crawl, the queen will be partially barren, that is, will lay regularly but the eggs do not hatch.

From two very light stocks last spring, I extracted 76½ lbs. honey and increased to ten. I had but 26 brood combs to begin with. The ten are all in good health and have stores enough of their own gathering, to carry them through.

Italian queen from River Styx, all right.

O. W. Parker, New London, Min., Mar. 8th. ,76.

Such is certainly not always the case, friend P., for we have repeatedly rescued bees, even after they were, queen and all apparently stone dead, and the queen has almost always, proven just as good as ever. We have purposely kept them a year or more, to test the matter.

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I have again lost lots of bees, the past winter—just how many I am not able to say. A part of my bees are on their summer stands, and yesterday had a flight, and some of them worked on flour (middlings). Bees in cellar suspiciously quiet. Shall give a severe letting alone for awhile yet. I have a supply of new hives well under way—can not afford to wait till June to see how many I shall want, this season.

D. P. Lane, Koshkonong, Wis., April 5th, '76.

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Have you any knowledge on what points C. R. Isham claims a patent for his honey box? or do you know nothing of them? I have used similar boxes for many years past.

Sam'l T. Ramsey, 1515 Vine St., Philadelphia, Pa.

We presume Mr. Isham will be happy to furnish us with a copy of his claim, that we may know just what will be an infringement, and what will not. Inquiries are also at hand as to what parts of the house apiary are patented, also the same in regard to the comb foundation. When the owner of a patent manifests a disclination to show his claims, the matter at least looks suspicious. Several of our neighbors recently paid an agent for a patent wire fence, over $1000.00 for rights, and after he had gone we showed them that the patent was granted for an ornamental cap to the *posts* to the fence, (something they never thought of using) and that the fence they were building had been free property for years. If it is *really worth while* we can supply ourselves with a complete file of the patent office reports.

I would say in reply to Mr. Johnson's questions, that the division boards are not essential to make the bees build the combs in the sections. My father has used the sectional boxes for four years, I have been using them the last two years, and it has been our experience that the divisions are a detriment; as it requires two spaces, one on each side of the divisions, besides the space the divisions take, making two spaces and the board between each piece of comb. We find that the bees will build the comb just as straight, and will store from two to three pounds more of honey to the box, than they would with divisions. We find that the sections must be exactly the proper width to get them filled. If they are too narrow, the proper number of combs will not be built; if too wide, the bees will fill in with extra pieces of comb.

We find the Barker & Dicer section honey box (made at Marshall, Mich.) has just the requisites. We used pieces of comb, last season, about three inches long and 1½ wide. In 3000 lbs. of honey there were but few imperfect sections. The honey in sectional boxes sold in our markets last year, for three and four cents more per lb. than that put up in other ways. Retailers are getting so they will buy no other. We expect to use the comb foundation this season. Think the middle section should have a piece put in nearly full size. The others would do with less.

Our bees have wintered excellently; have plenty of brood, and if they have no back-sets we may look for early increase. W. L. Porter, Northville, Mich.

So far as using *wood* for the division boards, or separators, is concerned, we think you are perhaps right; but if the sections are to be glassed after being filled, and only sheets of tin are used, we think the objection mentioned will hardly apply. We purchased some comb honey for our retail trade last fall, (in 8 or 10 lb. boxes of all shapes and sizes), which we cut out and retail on plates. And by the way, we wish to say it is probably the last experiment of the kind we shall ever make; for this honey cost us net 25c., and all that run out of the combs in cutting, was at once reduced to 18c—price of extracted honey—besides the cost of a hand to cut it out, and to clear up and wash up things afterward. As it candied very soon after being cut out of the boxes, we only opened a box as fast as used, and even though we sold it at 35 cts., we fear the lot has never paid expenses. Now the point we are coming at, is this; the bees themselves, when they go about their work in a disorderly way—running their combs diagonally, etc.,—do not get as much honey in a box as they would if obliged to put it in uniform combs of equal length and thickness. In building it in these large boxes, they leave large spaces and awkward angles unfilled. With the section boxes and tin separators, this we think will be mostly avoided.

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Was very much disappointed on finding the small type leaded. I would rather pay $1.50 a year printed as formerly. Was also much disappointed on learning C. O. Perrine had obtained sole right to manufacture the comb foundations and at such prices too (?) as he offers them.

If an Italian queen mates with black drone will her drones be pure, or are they affected?

F. Sargent, Hubbardstown, Mass.

We believe the best authorities consider such drones pure, although there are a few who think to the contrary. Our own observation corroborates the general testimony, viz., that they are pure.

MR. A. I. ROOT, *Dear Sir*:—The only kind of white clover we have, is the white Dutch; the native American grows so short it is exceedingly hard to harvest, it consequently could not be saved for the price it would bring.

The white Dutch is merely a larger growing kind, of equal value for honey and much better for other pasture. Our price is 40 cts. per lb., 35c per 100 lbs.

B. H. STAIR & Co., Cleveland, O., March 31st, 1876.

We will furnish the white Dutch clover, at above prices; if wanted by mail, send 20 cents extra for bag and postage.

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I started last spring with 20 swarms, mostly weak; increased to 38 and extracted a little over 2000 lbs. of honey, sold three swarms and am wintering 35 in cellar. Took them out on the 9th of March; found them all right with the exception of perhaps two or three queens gone. Most of them breeding and strong with bees; but the weather turning cold, I put them back and they have been snug and quiet through the March storms. P. EDWARDS.

Emporia, Kan., March 28th, 1876.

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I have had four swarms this week. R. WILKIN.

San Buena Ventura, Cal., March 22d, '76

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A. I. ROOT, *Dear Sir*:—I commenced keeping bees a few years ago by accident. Finding a couple of swarms in box hives, on my hands, it became a question what I should do with them. I knew nothing of bee-keeping, the old, new or any other way. It occurred to me that I had seen passing through the office, journals in the interest of Bee-culture. I commenced a watch, and after a long time found where one was and secured it. From it, I found where I could obtain books on the subject. These I obtained and became interested in the science at once.

Before, I had looked upon the possession of bees as a bother, now no money could buy them of me. (I mean when I had but the two stands). All my leisure time I devoted to the study of my bees, became fearless of them, and handled them with impunity, to the astonishment of all the old bee men. I have now about 40 hives in movable frames, Italianized, etc. I have kept bees only for the pleasure they afforded me, but last year, when they all got to work right, they piled in the honey so rapidly that I had to *work* to take care of it. This took the poetry all out of the business. I extracted altogether, have now on hand, barrels, tubs, kegs, jars and jugs full of candied honey.

I think extracting best and the honey the best, as it will not make one sick, eat ever so much of it; but I want to make some honey in the comb the coming year. I must reduce the work a little, or I think I shall not like it so well. I have now so many bees that I need not hurry them to get all the honey I want. With this long preface (which of course you care nothing about) I will come down to business.

I want something nice in the way of honey boxes. Only samples; I have a buzz saw, scroll saw and other fixings, with which I can make anything from a pattern. It will astonish you that I am so ignorant, but I never saw honey in boxes. I see you advertise section boxes with comb guides, fancy boxes, etc., and you speak of getting up something more fancy still. Now I want a sample of all these, sent by mail. You need not send glass, I can supply that here. I saw, in the Jan. No. of the *A. B. J.*, an illustration by C. R. Isham, of his honey boxes, which I think would be nice, especially for one comb. The picture shows a slot in the bottom but none in the top. When boxes are set one above another as I understand they are in the hive, how do the bees get up to the top boxes? I also read of boxes placed on the side; how do the bees get in when the four sides are glass? These things have bothered me. Slots or entrances might be placed anywhere in the wooden part of the box, but think not so easily in glass. And would not these holes detract much from the beauty of the box, or receptacle, even if papered over? M. C. GRIER.

Lamar, Mo., March 20th, 1876.

It *is* a nuisance to be obliged to paste paper over the holes in a great number of boxes, and it is a bother to be obliged to make them in the boxes in the first place. For side entrances, one of the side glasses is usually made narrow and is fastened only at its top and bottom, like the Quinby box; but such boxes are difficult to close when filled, and are not neat and finished in appearance. The operation of putting in the glasses, closes the openings to such section boxes as those made by friend Wheeler, but they hardly present as nice an appearance as the Isham box. What we want now, is as neat a box as the Isham, and one that will allow of glassing after it is removed from the hive, and of all openings being closed by the operation. Our section box case does all this, but it has glass only on two sides, is not as large a box as may be wanted by some, and is rather more expensive, being all made of tin and glass, than if the top and bottom were wood, like the Isham box.

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I will vote for small type and lots of it. Bees have come through the winter with plenty of sugar fed last fall, but there is no brood more than 3 or 4 days old. I am going to place a glass frame (such as are used for hot beds) over the meal feeding table so as to run the rain off, and board up all but one side; and then when the sun shines there will be "music in the"—feeder. My frames are 11⅝x1 . but I will reduce to Standard size. I don't think I shall make section boxes when extracted honey sells for 25 cts., (as it did last season) as fast as the bees can gather it.

Now Novice, you have forgotten to tell us how to *hitch* the wind-mill on to the buzz-saw, or rather how to make it run the first wheel or belt. I have cut a circular saw out of a hand saw, made a frame and a 38 inch pulley to turn a 2½ inch one attached to the saw. It will cut like anything, but I want our wind-mill to do the turning.

I wanted some comb foundations but as I am an 18 years old, anti-monopolist, and the bees always have built their own comb, I think they will this year. By the way, I bought my first bees when I was 13 years old, have had bees every season since, and with the aid of GLEANINGS can divide a swarm, introduce a queen, or anything else. In fact, I have always had bee on the brain, and sometimes over my eye or in my hair.

GLEANINGS is just the thing for beginners, young or old.

LLOYD Z. JONES, Galva, Ill., April 3d, 1876.

Bravo, friend Jones, and may the youths who have the skill and patience to cut circular saws out of a hand saw, receive the reward that comes to the good mechanics of our land sooner or later. There are so few *good* ones, that you may depend upon being hunted up and fairly remunerated just as soon as you have learned to do anything *well*. In applying power to the saws, we need a counter-shaft under the buzz saw table. To enable us to handle long boards readily, the belt to the counter-shaft should come through the floor from the room below, or the counter-shaft should reach some distance away from the table. The Barnes' foot-power saw that we offer for sale, is furnished with counter-shaft for steam, wind or horse power for $10.00 extra.

## Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," and have a friendly chat and feel "at home."]

### CHAPTER XVIII.

Be thou diligent to know the state of thy flocks, and look well to thy herds.—Proverbs xxvii, 23.

SEVEN colonies are dead in the house apiary; five on the north, and two on the south side. None of them were strong in bees except those that starved. *Starved!* yes, that is the name of the "disease" that has affected quite a number of our colonies this spring. It is true; after all I have taught, and after all I have said, they were allowed to die just for the want of a few lumps of sugar. I might make out a very plausible excuse, by saying that during this warm winter bees have consumed an unheard of amount of stores, or that business cares have made it well nigh impossible to attend to everything, or that the experiments with the comb foundation machine took my attention; that no one expected such weather in March, and ever so much more; but do you not know that such talk is all—"bosh?" it is with me anyway. I *did* know, and have taught over and over again that four or five lbs. too much would do no harm, and that we should base our calculations on something unexpected in the shape of weather, *every* season, and then if it don't come we are safe anyway. In the house apiary, it seemed such an easy matter to feed with candy or sugar at any time, that we were careless about the amount of stores thinking we could give them more at any time in a few minutes. We *could* it is true, but after feeding was done that was the end of it until about the 11th of March, and then we should not have gone through the whole so thoroughly as we did had we not found a colony already starved.

Why do I put this in our homes? Because it seems to me it is one of the very weakest of human weaknesses; one that is more to be feared than all the bee diseases that were ever —worried about. Our neighbor Phelps has just been in, and reports several colonies dead from starvation, and among them the one containing his imported queen. I asked why in the world he did not give a great excess, and he said he thought he did.

"Did you weigh the hive?"

"No, but I filled the combs so well that I felt sure there could be no doubt about it."

"You gave her an abundance of bees I suppose to be sure they would not 'dwindle out' in the spring?"

"To be sure I did, and that was where the trouble was."

Mr. Blakeslee has lost quite a number by starvation, and we hear of starving bees on nearly all sides. Now what is to be done? If I continue to let one or more of my colonies starve year after year, are my readers going to be so foolish as to follow in my tracks? Shall we accept the idea that there are some people so constituted that they will mar their whole lives by this species of carelessness? Mr. Blakeslee has always been so careful that he has hardly ever lost any before in this way, but our friend Phelps—he will forgive it, for he knows I am very anxious to have him improve—has starved his bees ever since he commenced. He has starved them in the winter, in the spring, and in the fall; and his friends have made the remark that it was no use for him to try, for he would let them starve all his life. Now friend Phelps can you not let your friends know that there is something more in you than they ever gave you credit for? and that you will show them you are strong enough to see your own faults and set about curing them?

Accepting the idea that our friend is absolutely incapable of getting over the unfortunate weakness, like a stick of timber that is just a little too short for bridging a certain stream, now the question is right before us; shall friend Phelps and I give up bee-keeping because we are so careless and heedless? or shall we strive to get the better of these habits that hang about us like evil spirits? To give up is to sink down one step in the ladder, and when one begins to go down, where shall they stop? Perhaps we had better take fewer colonies. But may our Creator forbid that we ever cease to strive earnestly to weed out all that we discover in our stubborn natures that unfits us for the work that lies before us. If there is now no fighting to be done for our country, there is at least fighting to be done with our own selves, and great is the reward that one feels when he can look back and see where any bad habit has been literally "licked out," so effectually as to leave nothing to indicate that it ever existed.

When the house apiary was first built it was a novelty, and of course it was a pleasure to have every thing made nice and exact. After a while it got to be something of an old story, and then in steps this besetting sin, a disposition to prefer to work at some new thing. At present, I would like very well to try Prof. Vogel's "hive-wall-hall," but if I am really unable to stick to what I now have on hand, and do that well, I shall deserve to lose the confidence and patronage of my friends and readers. I wonder if any of my readers ever get into the mood I will try to describe.

It is now the 6th of April, and after what has been written about the house apiary, of course we have many callers who would like to see it. Now I take pride usually, in showing anything about the apiary, and especially about the house apiary, but there is now just one unpleasant feature about it; there are more or less bees on the floor, and to hear them snapping under ones feet is enough to make any one nervous, who has been trying hard to keep the floor clean. To be sure bees have no kind of business being on the floor at all; but this spring they have taken a peculiar fancy to crowding out under the edges of the cloth covering to the hives, rather than going out by the entrance, and therefore we have bees on the floor. We could cover the hive with a thin board it is true, but we should then have more traps about, and when the division board is pushed up to make a 3 comb hive, this board would be tilting up. The cloth covers are held nicely back against the wall by the strip of tin that is folded in the back edge, but the problem is to keep the edge of the cloth along the rabbets close down to the ends of the frames, without any loose fixings that will hinder in opening the hives rapidly; and also to allow this piece of cloth to drop down so as to prevent light from coming through the glass division boards. Possibly a large cord hemmed along the edge of the cloth might do this, but as this would be considerable trouble, it has been neglected, and feeling that the house apiary was of late rather an unpleasant place, it has been, I fear, rather avoided. Several times, conscience has spoken strongly, and I have marched to the spot with a determination to fix the trouble at once. But after I got there, thought it was not so very bad, that this hive was good enough, that I didn't really know how to fix the next, and finally all I did was to sit in the easy camp chair awhile and then go back to business that I felt more interest in, leaving the whole untouched. Now this is just the very spirit that ruins apiaries; that lets bees starve, that makes homes tumble down affairs, and unpleasant; that makes failures in business, and for aught I know ruins nations. Leaving important duties undone because you don't feel like it. Is not poverty a real blessing when it makes one dig right into the business on hand whether he feels like it or not? And then how much better one feels when they have really driven away this restless spirit, and find themselves happy and contented in doing just what they know they ought to do. Do you suppose our mothers never felt weary of going through the same dull routine of duties day after day, to give us our daily bread? Set about the work you have on hand, and with a determination you will do it faithfully and well, even if you should feel no enjoyment in it for a whole week; and sooner or later you will feel that tranquillity of mind that always comes to those who are *persistently*, faithful, diligent and industrious. As for me, if I don't have that house apiary in apple pie order, and the hives so that not a bee can even make faces under the cloth covers, before I give one word more of advice to any one, then you may say I had better *do* more, and *talk* less.

## CHAPTER XIX.

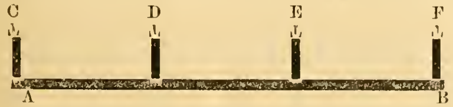
### Little victories.

LAST year, we gave 16 pages of matter for 75 cents, and now, we give you 24 pages just as broad and just as long, without counting the four pages of "Our Homes" at all, for $1.00. Furthermore, all those who paid only 75 cents at the beginning of the year, can send the extra 25 cents or not, as they choose. You are all to be your own judges, but hereafter, the price is to be $1.00. The main point is, that no charge is made to any one for the "home department" and the 25 cents that we asked for, has no reference to it. These four leaves you are to consider a free gift, and I would be very glad indeed to omit them for the few who have objected to them; but as our addressing, etc., is all done by machinery, it would cost us much more to leave them out, than to send them all along, alike. If you do tear them out before they are read, I shall not feel at all hurt, for very likely you are right about it. Sometimes a physician in attending a patient, forms an acquaintance of such a nature that he likes to make friendly calls after he has ceased to be needed professionally. That is just as I feel; you have paid me for my work on the other pages, and now school is over, for to-day, and I am just stopping a few minutes for a social chat. You will shake hands pleasantly even if you do not quite agree with me, will you not? I do not like to make any exceptions; if you have been unkind to me I freely forgive it, and if I have displeased, please overlook it on the ground that we are all different; like the brood of chickens, of many colors, but all chickens after all.

Friend Heddon was offended because we refused to publish an article that we thought unprofitable. As we can find room for only a small part of the articles sent, who shall decide which are meritorious, and which are not? So long as you send me your subscriptions, I shall conclude you wish me to do this work, and I will try and do it faithfully, Friend Coe of the house apiary—we trust we shall be able to speak of each other in a friendly way, whatever happens—charges us unjustly with purposely clipping his article so as to alter its meaning; this is certainly a mistake, for we did it only because it seemed to us a useless repetition of what had previously appeared in GLEANINGS. We consider it a duty we owe you all, to prune all matter sent us, and we shall always take this liberty unless forbidden; in that case, we shall throw it in the basket *if we think it needs pruning* If such articles are to be returned if not accepted, mention it and enclose the stamps. GLEANINGS shall not be the vehicle of unprofitable controversies, and as I may err in trying to guard against this, I will freely return the money to any dissatisfied subscriber, for all unexpired time. Let us at least settle all differences pleasantly. Friend Coe, in a mild and neighborly way, I wish to say that I do not consider anything about *my* house apiary patentable; and feel it a duty to stand between you and my readers if you try to prevent them from building them. Only last week a neighbor said he had built one much larger than ours, but that he omitted the building paper, although he knew it was cheaper and better, because he did not wish to infringe on any patent. A patent can no more prevent our using several thicknesses of building paper than it can prevent our using several thicknesses of shingle or siding. If you can by law, make out that I am infringing, I will submit pleasantly, and will in no case think of you harshly or unkindly, further than that you are an erring brother, whom I wish to see righted.

Friend Bingham why do you waste talents that are capable of better things in making prominent the weak points of a brother bee-keeper? Do you know how painful it is to a stranger to see brothers and sisters quarreling? Come, let us drop it all and see who can make the most honey, and let us promise that if we get beat, we will take our ill-fortune pleasantly. You with your black bees friend B., Mr. Coe with his house apiary, and Mr. Heddon with—what is it you recommend friend H.? Box hives and brimstone?

We are almost through this chapter, and have as yet said nothing of the "little victories" at the head of it. When we finished the last chapter we had not been through the house apiary since March 11, (now is Apr. 11th) and as we then put sealed honey close to every colony, we had no thought that any more would die, even though March was a wintry month. But in accordance with the resolution then taken, we went to work at them even though it was after 9 o'clock at night, and you may imagine our feelings on discovering that of the 36 hives only 18 contained live bees. Many of them had starved with sealed honey plainly visible through the glass division boards, and a few had really used every particle in the hive, and then lay dead in great heaps that seemed to say "why did you, with so much care and pains, bring us into existence, only to let us die in such a shameful way just as the gentle April breezes were beginning to call us forth to activity?" Certain it is that many more bees have died in the house apiary this spring than out-doors, but we think if the sun had been allowed to shine through the glass doors, as we proposed when building it, this could not have happened. We did not do this, as you know, because the bees got out on the windows; and we did not fix the hives, because we were too busy with the comb-foundations, etc. We went as straight as we knew how for the lump sugar, and before going to bed had sugar over every one of the remaining 18 clusters of bees. And to make more sure, the lamp nursery was lighted and the room kept all night, above 40°, even though it was below 20° outside. Next morning we went at the hives at 5 o'clock, and by the time the sun was up had its full rays coming in at the east glass door, which soon raised the temperature to over 60°. After considerable study we have succeeded in fastening the bees in to our satisfaction; and the whole house apiary is working so beautifully now, that we will explain it by a diagram. We should add that to make assurance doubly sure, we have decided to feed them *now* for next winter, or at least we are going to try for once, and see what too *much stores* will do. As we shall probably use the house apiary for comb honey, it will do no hurt if their combs *are* all filled with sugar syrup when clover blossoms, for they will then have to put their honey all in the section boxes. The house apiary has eight sides, and as the east and west are occupied with the large double doors, we have six sides for hives, and each side has six hives; three on the floor, and three on a shelf about three feet high. If the ceiling were seven feet high, we could use three tiers very well for comb honey, but if you wish to use the extractor, it might cause some inconvenience. Let the line A, B, represent the shelf that forms the bottoms of the hives on any of the six sides, and C, D, E, F, represents the upright boards fastened to this shelf and to the wall, that form the ends of the hives, and separates them from each other. On the upper edge of each board are a pair of the metal rabbets for supporting the frames; the backs, or highest portions, being tight against each other, as seen at D, and E, so that the ends of the frames from one hive are separated from those of the next, by only two thicknesses of tin. Now as the walls of the building form the back of the hive, and the glass division boards the front, our hive is all enclosed except the top. Our first idea was to cover them with a nice woolen blanket; but on trying a few, we found they would eat holes through the thickest woolen goods we could get; and we finally were obliged to adopt the duck or canvas that we have before spoken of for feeders, and which has caused so much annoyance by allowing them to get out, along the rabbets. Well, when we set seriously about it, we succeeded by having an extra covering to the hives, underneath the one that falls down over the glass in front, and this under cover is made in two pieces that lap over each other, each being fastened permanently between the rabbets. In opening a hive, the top cover is removed, and the pieces that lap, are then thrown one to the right, the other to the left, over the hives on each side. Now the nice point is that all the bees that wander over the sides of the hive are on these covers, and when the hive is closed, they are all turned right over on the frames; we can also stand the frames against the wall with their lower ends resting on these covers, when making examinations, and yet when the hive is closed, all stragglers are gathered up, so that we can open the hive adjoining, if we choose, without any danger of mixing. Our house apiary is now all in such neat trim that it is a pleasure to work in it, either by lamp or day light; all the dead bees are removed, combs brushed up and nicely put away, brood nicely under way, and all prosperous under the influence of plenty of food, and an even warm temperature: and that is the "little victory" we have achieved over a disposition to shirk important duties after their novelty has ceased to render them interesting. Two colonies have been united with others, because they were queenless, and so we have only 16 now in the house apiary. As we have managed, this present winter, the house apiary has wintered just about as well as those left out-doors, and no better. They perhaps reared more brood, as there were great heaps of dead bees, where there was but a small colony last fall, and that was why they starved; those out-doors did not starve, because they did not rear brood and exhaust their stores. With the experience we have had, we certainly ought to be able to do better next time.



## CAAPTER XX.

### PATENTS.

IT would be sad, if we should not get out into the door-yard at all this month, but some of our friends say they don't care a cent for clothes lines, and front door steps—I should have had them all fixed up in apple pie order if they hadn't interrupted—but want to know about the comb foundations, and several other "family troubles" that I fear I shall only make worse by stirring up.

I have for many years, been vehemently denouncing the plan of selling rights to make any thing in the shape of implements for bee-culture, and I suppose the great mass of you will say I did just right; but I have been feeling of late, that perhaps I have *not* done just right. The cause may have been a just one, but have I really any right to dictate as to what my neigbors shall or shall not do? If my advice is asked, to be sure I should give it, and even if it is not, if I feel that money is being paid for something that is valueless, and will prove so, perhaps it is my duty to protest against such waste, but it can and should be all done pleasantly; the kind feeling should extend to the party who is wronging, as well as to the one being wronged. It may be said that I am taking a great responsibility, in presuming myself capable of deciding what is right, and what wrong. The only reply I can make, is that my opinion is asked either directly or indirectly in almost half the letters I open. A few years ago, large sums of money were paid out in our county for a receipt for making soap; and as the ingredients could all be found at any druggist's, the question arose as to how the owners of the patent, could tell who infringed and who did not, for every one soon knew what the ingredients were. Who is going down cellar poking into our soap barrels to see if we are infringing on their patents? You all agree with us do you not, that the idea is simply ridiculous? Yet our patent office has granted hundreds of patents for soap, and although as the years pass by, and one after another decides that these great discoveries that were going to "revolutionize" are of no value at all, still it goes on granting patents. Every few years it grants a patent to some bright genius for the combined hen-roost and bee-hive, and this is a signal for the newspapers to take up the idea and laud "Yankee ingenuity". Perhaps we should not blame them, and may be we do equally foolish things where we know no better. Ours is a great country, and it is a hard matter to know all that has ever been invented. We are all law-abiding and peaceful citizens are we not? We also wish to do as we would be done by. Well now, what *shall* we do about paying for rights to make hives as we may happen to choose? As an illustration, we will take the tin separators—friend Wheeler is every inch a gentleman, and I know he will excuse me—for keeping the combs straight in the section boxes. Must we pay you friend W. for a right to put these strips between our honey boxes? We can do it without saying a word, and it would never pay you to go all round and look into our hives to *see* if we were using them. If they really prove valuable, would you wish to do this? or is it really necessary that we go over the past and see how nearly just like it something has been used? I know that Mr. L. years ago, tried tin division boards for getting straight combs in the brood-chamber, and he gave an account of it in the *A. B. J.*, Vol. 1. I feel as if it would be almost small business to go and hunt it up, and yet if I am asked if I would advise buying a right of you to use it, I *cannot* honestly say I would. It is the same with friends Isham, and Barker and Dicer, in regard to their honey boxes. When I received their advertisements, I felt that perhaps their circulars would advise my readers to buy a right of them, instead of nice boxes at a fair price. Is it not as honorable to sell rights as to sell boxes? I cannot feel that it is, and yet I may be mistaken. Real inventions come about so slowly, and so many have a hand in their developement, that I cannot feel that it is quite right for one to *sell* such a privilege. Is it not much like selling receipts to do some great thing? If one man starts a factory, it would certainly be wrong for his neighbor to build one across the way, and copy all his machinery that he might have labored years to perfect; and here is where the good of the patent laws comes in, but I cannot feel that we should sell rights for doing simple things that we can easily do with our tools at home. The question now comes home to us with force; shall we respect the right of our beloved Mr. Wagner, or shall we take all the liberty the law allows? Mr. Perrine frankly stated that he could not prevent home manufacture for individual use, and that he did not care about it, but that he *did* not think it right after all he he had paid Mrs. W., for anyone to make and advertise the foundations, and that he should protect himself accordingly. While I am sure I could furnish the foundations at the price I had put upon them, I know that there are many difficulties to be surmounted before good foundations can be made "by the mile."

If it should transpire that every patent I have mentioned could be picked in pieces, (and I really do not believe any of the parties will make as much money clear of all expenses, as they would to sell their goods right out at a fair price, and tell their neighbors if they could do as good work at a less figure, to do so), and that even the Wagner patent was a mistake, and should never have been granted, had we better not agree among ourselves in a friendly way, and decide to call patents unfashionable in bee-culture? Do you wish to hear something about the metal corners? Well, I should never have offered them one cent cheaper if they had never been patented; and as the machinery for making them is quite expensive I very much doubt if any one would have attempted it, had it never been patented. Therefore I cannot claim any great magnanimity should I join with the others in telling our friends if they can make our wares cheaper than we do, to do so by all means. I had forgotton our friend Van Deusen, but I think it is the same with his feeder. If after getting a sample you should decide you could get them made at home more cheaply, nothing would prevent your so doing. Almost every one can make his own goods cheaper than anybody else, and your protection from ruinous competition would be your ability to do nice work at a moderate price.

Does one really feel as pleasantly over the sale of a patent right, as he does over a nice crop of honey, or some neatly and well made bee-hives? It is not to get much money that we live, but rather to be *deservedly* held as good neighbors and citizens by all around us; and when we buy or sell, to have our transactions such that we are pleased to meet our customers afterward. Shall we sell rights friends, or shall we invent all the good things we can, and feel glad that they may help our fellows? If any of my advertisers feel that I have injured the effect of their advertisements, I will refund the money they have paid me for this No.

I sold Mr. Perrine our machine for just the price advertised, selling him the wax at cost, and turning the whole business into his hands; yet have been a good deal blamed for the course then taken. Should I pay no respect to the Wagner patent that I then considered valid? I am now having another machine made as Mr. P. makes no progress as yet towards filling orders even at his prices; ours will be 75c. and $1.00 as before, but I beg no one will send in money until we announce being ready to fill orders. If after the machine is done, our laws will sustain Mr. Perrine, you and I will have to submit until his patent runs out; we can do it pleasantly if obliged to can we not? Now while I shall receive the approval of most of you in this I shall be severely censured by others having different interests at stake, as it is with the type; you dont all "see" alike. Let your postals talk out plainly but not unkindly.

## OUR OWN APIARY.

THIS 26th day of May finds us with 60 live colonies of the 90 we had in the fall. What made them die? We don't know, unless it was, as Bingham says, a dispensation of providence, perhaps to keep us from getting proud and arrogant as we might if we could winter them all; as our neighbor Shane does. Isn't it aggravating? Why just think of it, he has wintered 131 colonies and never lost one. How did he do it? Says he did nothing except to have plenty of bees, and a great plenty of stores. If we are correct, he fed many of them on the honey he had extracted; so we can't claim that it was even sugar syrup. Reports are also favorable from almost all points of the compass; and we are trying to rejoice in the prosperity of others, even if we are a little behind. Just listen to the following:

I housed in my cellar last October, the 28th, 1875, 150 stocks of bees, where they remained until April 10th, 1876, when I got them out on summer stands. All were alive and I never saw bees in better condition. Found 7 queens missing but the stocks are too strong to unite, other hives are full of bees without them. The temperature of cellar ranged from 46° to 52°; never below during the winter. Did you ever have stocks of bees that filled every space between the combs from top to bottom of hive in cool weather at this time of year, or ten days after placing them on summer stands? Nearly 100 of my stocks are in that condition. What does it mean? They are surely crowded and will swarm on the first appearance of fruit bloom, if there is any honey to be gathered.

HIRAM ROOP, Carson City, Mich., April 20th, '76.

We think it means they had honey and pollen enough in their combs to rear brood in your warm cellar without starving.

Perhaps the best colony we have, is the one in the Quinby hive that was packed on all sides and over head with chaff, *a la* Townly. They were so strong they would most probably have wintered well any where, for we tried to get them to work in the boxes and failed; consequently they had every thing full of nice sealed clover honey. Now *we* never saw a hive having too much stores, notwithstanding all that has been said about it; we have tried the effect of too little and know just what it does. now we propose trying what the effect of too much will be. Our next best colony, is the one in the hoop hive; and they have been steadily increasing in numbers since Feb. Third best, colony with imported queen in house apiary on north side. Cannot see that it makes any difference whether stocks are on north or south side. I should be glad to add that the several dollar's worth of oil that has been used keeping the house apiary warmed for the past month, has been of some sort of benefit to the brood, but really the bees outside that have taken their chances, are just about as well off. To test the matter still more thoroughly we made some candy containing a quantity of rye flour, but although the bees ate it slowly meal and all, we cannot see that it has hastened brood very much after all. Small clusters out-doors kept on three frames with a division board, have done equally well, and a sharp frost seems to have no effect on them. Some very fair colonies were lost by the dwindling, and in some cases it has sadly depopulated some of our heaviest; the only remedy we can see, is bees enough to stand this; but how this may always be secured, is more than we can tell. Mr. Blakeslee, who has never before lost in this way, has this spring lost a considerable number; and although want of care has very much to do with the whole matter, we are inclined to think it a malady that is found in some apiaries and not in others, and even in some hives in the same apiary. As the reports of its ravages are much less this year than for several seasons, we may hope it has passed its worse stage. The disposition of good stocks to swarm out, we think may be attributed to the same cause.

## JUST BEFORE GOING TO PRESS.

ON the 8th of this month. I went to feed my bees, (four stands) with rye meal, as usual with me every morning, and to my surprise, found one of the tin cans, in which I put the meal, nearly half full of water. which had frozen solid, and in it were several bees, frozen in the solid cake of ice. I took the ice out and laid it in the sun, where I left it for about an hour, at the end of which time I went to the spot and found one of the bees that were frozen, just moving its legs in the water that had thawed from the ice, (I know it was one of the same bees), and in about another hour it was strong enough to fly away, and I saw no more of it.

Will bees live on rye meal or other flour if they can get no honey? CHAS. DENNEY, Salt Lake City, Utah.

Very true. but had you left them thus more than 48 hours they would have been dead, or if they had been exposed to a zero freeze for *one* hour, we think you would have failed in your experiment. If such were not the case we would have a fine time freezing our bees up about Nov., and thawing them out again in the spring, without wasting any money for honey or sugar meanwhile. We think all these cases are only a kind of suspended animation, and that the insects will starve unless warmed up and fed at least every day. Ants have a faculty not possessed by bees, of enduring zero freezes for months at a time, and this fact has given rise to the idea that bees could be thus kept without food. Pollen or meal will enable bees to make their stores go much farther, but will not alone sustain life.

Received the extractor on the 10th all right. Freight and custom custom charges were $3,71, so it would cost me about $12. Canadian money. It is very light and all I can say for it is it wants a handle for carrying it on the arm. I like it very much, and if it stands wear I will be well satisfied.

J. Reaman Carville, Can. Apr. 21' 76.

We once had an idea of adding every improvement that was suggested, but soon found the machine would bristle out with them worse than a porcupine. Your tinsmith can put on a handle for you to put your arm through, friend R. if you wish, in a very few minutes. For our own use we prefer them just as we send them out, nothing more, and nothing less.

You were not only careless in neglecting to number your hives, but in not having a place for your old clothes and knowing just where they were. *My* wife *knows* where every thing in the house is, and hence don't have to *hunt* for anything. This makes *me* somewhat careless in regard to such matters, but my *old clothes* hang right where *I* can place my hand upon them. I would like to know why *you* should fail to "look pleasant" or why *you* should dodge a bee, or do anything but smile delightfully when your pets sting you on the nose, temple, hands etc. You should go right on, as bee stings are such exceedingly trifling things you know [?]

The fact is, if you had acted sensibly and put on your bee vail and gauntlet gloves, you could have set those bees out without a *scowl on your face.* The vail is a little inconvenient but we must refrain from the luxury of eating honey, or expectorating while wearing it.

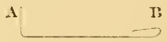
J. Doyle, Elmore, Ills.

Gently, friend D., we shall have to confess to being one of those stubborn individuals, who are so averse to taking the trouble to change our clothing, that it may be a year, before we are so considerate as to ask for "old clothes"—such as can't be spoiled— and therefore, altho' we pride ourselves on having a "place for every thing" in *our* home, it took a little time to decide whether they had gone into the rag carpet or not. We know very well we *should* smile pleasantly, amid troubles, and hope we are growing a little better daily; but there looms up before us a great mountain of rubbish that should have *no place* in a well formed character. If we knew we were going to tumble hives from a shelf as high as one's head, we don't know but we should put on a veil, but assuredly not gloves. Is there one among our readers who has used gloves a whole year, and advises them?

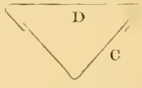
## HOW TO MAKE AN EXTRACTOR.

THE first thing to be considered is the inside work, and we think you will get a clear idea of what is wanted by imagining a square bird cage without top or bottom, and with wire-cloth only on two sides. We make this frame or cage of strips of folded tin, and it is to be made just large enough for your frame to hang in it as it does in the hive—unless your frames are more than 14 inches in width under the top bar, in which case we would turn the top bar in a vertical position—and it will be all the lighter and just as good; we will allow the combs to hang ½ in. below the wire-cloth. The distance between the two sheets of wire-cloth, should be 10 inches for all kinds of frames, and the width of our cage the other way to allow of ½ inch play in setting the combs in place. For the sides that hold the wire-cloth, we take pieces of tin 1 in. wide, and fold them 3 times, making quite stiff metal rods, and we set one of these with its edge against the wire-cloth every 2½ inches. A strip of the same is also made to cross the whole of them in the middle, and this latter is braced by still another, crossing *it*, having the ends securely soldered to the outside edges of the wire-cloth. This precaution is to prevent the wire-cloth from bulging, with very heavy combs of thick honey.

The upright corner pieces are simply strips 2 inches wide, folded thus:



The right angle at A, holding the rods that support the wire-cloth. Our cage is now complete when we put it together with 4 strips 1 1-2 wide, and 11 inches long. These are stiffened by folding a seam on both edges like B, and then folding ¼ inch at each *end* like A. All the corners and joints should be well soldered by an experienced smith, and then we are ready for the shaft, which is simply a double tin tube. It is made with such a machine as is used in turning the edge of eave spouting. To attach this shaft to our frame we make three pairs of arms that resemble a letter x, a hole being made through the center to hold the shaft. One of them is soldered to the shaft just a little above where the bottom steel pivot is soldered in; the other as near the upper pivot as may be, and the third, toward the lower end of the shaft, so as to brace against the bottom pair. They are all bent at an angle after being soldered to the shaft, and their outer ends are attached to our cage, by being soldered to the horizontal bars across the top and bottom of the sides that have no wire-loth. The point of attachment is about two inches from each corner, to allow the comb to drop in without touching them. As these x pieces require stiffness and strength they are made of strips about an inch in width folded thus: a break being



left in C, where the shaft goes through. With the tall frames that rest on one end, we put a piece of wire-cloth across the bottoms to hold the frame; this may also be used for extracting bits of comb.

We really know of no better way than to advise you to purchase the gearing of us; if you are going to manufacture largely, you can use ours for a pattern and have some cast. To attach the gearing to the can, you need a stiff metal hoop on top, and as we have ours made expressly for the purpose, perhaps you had better get them of us. The pivots in the ends of the shaft, are of the finest steel now known, viz., Stub's steel, and as the bottom runs on a piece of saw plate, they will be likely to last a life time. The can is to be made either 17 or 20 in. in diameter, to suit the different sized frames mentioned in our price list. The bottom we make sloping to a point, and from this point a sloping channel leads to the gate, which we also make for extractors. If you are going to make them to sell, it will save you much time and expense to get one of our latest for a pattern.

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Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

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| *J. Oatman & Co., Dundee, Ills. | 312 |
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| *T. G. McGaw, Monmouth, Warren Co., Ills. | |
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| *J. H. Nellis & Bro., Canajoharie, N. Y. | |
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| One " " " Flint glass per gross | 9.00 |
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| Tin Foil Caps, per gross | 1.20 |
| Labels, " " | .75 |
| A thousand labels address printed to order | 5.00 |
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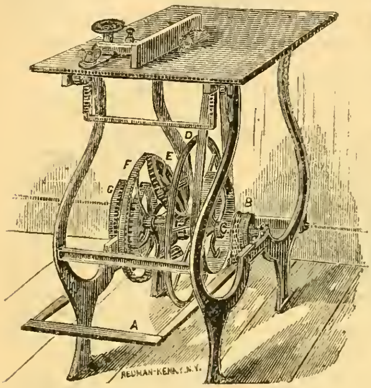

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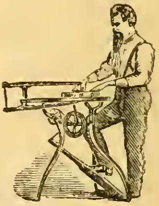

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# GLEANINGS IN BEE CULTURE

## Devoted to Bees and Honey.

PUBLISHED MONTHLY, AT MEDINA, OHIO,

BY A. I. ROOT.

Vol. IV June, 1876. No. 6

*In the Preparation of this Journal the following are the Principal Periodicals Consulted:*

**American Bee Journal.** *T. G. Newman.*

**Bee-Keeper's Magazine.** *King.*

**Bee World.** *A. F. Moon & Co.*

**British Bee-Journal.** *C. N. Abbott.*

[*Also Bound Volumes of the former since* 1860, *and Files of all other Bee Journals that have been Published in America.*]

**American Agriculturist,**

**Prairie Farmer,**

**Rural New Yorker,**

**Los Angeles Herald,**

**Southern Farmer,**

**Scientific American.**

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## IMPLEMENTS FOR BEE CULTURE, ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

| | | |
|---|---|---|
| 0 | Binder, Emerson's, for GLEANINGS | 50, 60, 75 |
| 4 | Boxes, section with comb guides | 02 |
| 12 | " with glass sides and fancy paper trimming for above | 15 |
| 20 | " four glass sides, 5x5x6¼ | 12½ |
| 4 | " without glass | 05 |
| 10 | Blocks, Iron, for frame making | 15 |
| | Barrels for Honey | $2,50 to $4,00 |
| | Balances, Spring, for suspended hive | 8,00 |
| | Buzz-saw, foot-power, *complete*, circular with cuts free on application. Two saws and two guages included. | 35.00 |
| 0 | Buzz-saws, extra, 6 inch, 1 50; 7 inch, 1,75; 8 inch | 2,00 |
| 20 | Candy for bees, can be fed at any season. Per lb | 15 |
| 20 | Corners, Metal, per hundred | 1,00 |
| 25 | " " Top only | 1,25 |
| 20 | " " Bottom, gal. iron, per 100 | 75 |

On 1000 or more a discount of 10 per cent will be made, anb on 100,000, 25 per cent. The latter will be given to those who advertise metal cornered frames.

| | | |
|---|---|---|
| | Combs, empty worker in metal cornered L. frames | 50 |
| 10 | Clasps, for transferring, package of 100. | 25 |
| 0 | Cards, Queen Registering, per doz | 10 |
| 2 | Cages. " | 10 |
| 18 | Case with Separator to hold 3 Section frames. | 06 |
| | Case of 10 of the above, 30 Section frames in all, | 1,25 |
| 2 | Cheese Cloth, for strainers, per yard | 10 |
| | Extractors | $8,50 to 10,00 |
| | " Inside and Gearing | 5 00 |
| | " Wax | 3,50 |
| 4 | Frames with Metal Corners | 06 |
| 5 | " Sample Rabbet and Clasps | 10 |
| 10 | " Closed end Quinby, nailed | 05 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | " present " | 1,00 |
| 40 | Gearing for Extractor | 1,50 |
| 20 | Gates, Honey, for Extractors | 50 |

THE HOOP HIVE.

| | | |
|---|---|---|
| | One story Langs'h without frames or bottom | $1,00 |
| | The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express | 2,25 |

The above is the hive we use and recommend in preference to everything else, and it contains every thing needed for all purposes except at the surplus season. If you decide to use the extractor you want an extra body and 10 frames—$1,25—making complete two story hive—$3.50—or, you can have 30 section boxes (with their 10 cases) in place of the 10 frames, at the same price. If you prefer the old style of glass boxes, we can fit the upper story with 18 having glass on four sides at 12½ cents each; this will make the hive and all cost $5,00.

| | | |
|---|---|---|
| | One story Q. hive without bottom or frames | 84 |
| | The same with bottom, 10 *nailed* frames, division board and quilt, complete except surplus receptacles | $2,00 |
| | The same with two story, 20 frames | 3,00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

A one story complete for 13 frames of either the Standard, American, or Gallup hives, will cost $2,50, and they can also be used with any of the surplus arrangements mentioned; also, as they are all deeper than the Langstroth frame, a single story can be used with fewer frames, and sections or boxes at the side of the frames. As an illustration; we can take four frames out of the one story hives above, and put in their place 18 section boxes.

| | | |
|---|---|---|
| 25 | Honey, Clover, per lb, 18c., Basswood, 17c. By the barrel 2c. less.and waxed and painted barrel included. | |
| 0 | Knives, Honey | 1,00 |
| 0 | Labels, Honey per 1000 | 3,25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp Nursery | 5,00 |
| 0 | Larvæ, for queen rearing, from June to Sept. | 25 |
| 15 | Microscope, Compound | 3,00 |
| 0 | Prepared objects for above, such as bee's wing, sting, eye, foot etc., each | 25 |
| 0 | Medley of Bee-Keepers' Photo's. (150 Photo's) | 1,00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | " " Double lens | 1.00 |
| 0 | Photo of House Apiary | 25 |
| 06 | Quilts | 25 |
| 2 | Rabbets, Metal per foot | 02 |
| 0 | Scissors, for clipping queen's wings | 40 |
| 15 | Seed, Alsike Clover, *raised near us*, per lb | 35 |
| 20 | " Summer Rape. Sow in June and July | 15 |
| 0 | " Chinese Mustard, per oz | 25 |
| 10 | Smoker | 1,50 |
| 2 | Tacks, Galvanized | 10 |
| 3 | Thermometers | 40 |
| 1¼ | Universal Section Boxes in the flat. each | .01 |
| | Universal case of 30 boxes, just right for U. hives or any L. hive, and can be fitted, to *any* hive | 1,25 |
| 0 | Vails, Bee. with face of Brussels net, (silk) | 75 |
| 0 | The same, all of tarletan (almost as good) | 50 |
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| 3 | " " " Queen Cages | 25 |

All goods delivered on board the cars at prices named.

*May 27th.*—We have to-day 1615 subscribers.

Both Gould & Gillipsie, mentioned in humbugs and swindles have been many times reported. Will the press aid in showing them up as they deserve?

Over a year ago we ordered 3 copies of the German Bee-journal for subscribers, and sent the money with the orders to M. & R. Burgheim, Agents, of Cincinnatti, telling them plainly to send the Journal for the year 1875. A short time ago we received a bill for $12.20. for the Journals for 1875; We told them we had received no orders for this year, therefore could not have them continued, and that if we were really obliged to would pay up to the present time, but all Journals were *now* ordered to be stopped at once. The result is that we are compelled to lose the $12.20 just because when we ordered the Journal for 1876 we did not say emphatically, *no longer*. It may be the German Bee-journal is an institution that has to be taken all one's life if he once subscribes for it. If such is *not* the case will the publishers of it please look after their agents in Cincinnatti, who claim to have the *law* on their side?

We have seen a copy of the claim on the Isham honey box, and have reason to think the patent is a fair and honest one; and that the parties who think they have seen the same thing in use prior to 1872, are mistaken. Very well then, says one class of our readers; it is your duty to pay Mr. I. (and to advise your readers to do the same) for an individual right to use the box, if you want to use it. We certainly do not wish to be stubborn or headstrong in the matter, but we really cannot under any circumstances feel that we should be doing right to encourage the individual right business. It is true that almost all our laws *may* be perverted, but because they sometimes are is no reason why they should be condemned as one of our number presents it. But dear friends is not almost the entire fruit of the individual right system bad? Do you know of any one in your neighborhood who has been benefited finally by the purchase of a right? those who have rights for sale, will pick up a few facts, it is true, to support their position; but do the general average of our readers after looking about them, decide that the traffic is one they would advise honest and industrious men to engage in?

If Mr. Isham will manfacture his boxes for sale at a fair price, say by the 100 or 1000, we have no fear that any one will think of infringing by making their own, for hand labor can never compete with that done by machinery. If any one should start a similar manufactory without permission from him, it would be a very simple matter to stop them by law, and a course we would, by all means approve. The latter plan builds thriving manufactories, and is satisfactory to all parties, while the former results in tangled up speculation and then goes down to oblivion, except as at times men look back and review the sums of money they have at different times wasted foolishly.

BUCKWHEAT

For seed, cheap. Sow first week in July. Address

6 H. R. EMMINGA & SON, Keokuk Junction, Ill.

Italian Queens.

No Black Bees in our vicinity.

Queens bred from choice imported or home bred mothers warranted pure, each $1,00. The same queens, *warranted purely fertilized*, each $1.50, or one dozen for $15. Our home bred queens are very beautiful. (Albino stock, if you choose to call them so). All queens are reared in full stocks. Sent post-paid by mail. Safe arrival guaranteed. Much useful information in our circular. Send for it.

6 J. H. NELLIS & BRO., Canajoharie, N. Y.

## CHANGE IN PRICE.

## 1200

## COLONIES OF PURE ITALIAN BEES FOR SALE.

On account of the very sudden death of my husband, Adam Grimm, I will sell and ship, between May 1st, and May 20th, 1200 Colonies of pure Italian Bees, in 8-frame Langstroth movable-comb hives, in good condition in every respect; and I will guarantee safe arrival if ordered in lots of from 1 to 25 colonies. Shipped per express, for the following prices:

| | |
|---|---|
| Single Colony | $9.00 |
| Two or more, per Colony | 8,00 |

Hybrids $1,00 less.

Orders must include cash or will not be noticed. If large lots are ordered, the purchaser must run his own risk of safe arrival. For preparing and packing them for shipment an experienced bee-keeper will be employed.

MRS. ADAM GRIMM,
5-6 Jefferson, Wis.

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Having a surplus stock of over 600 lbs. each of *Chinese Mustard* and *Basswood* seed, we will fill orders promptly as follows: Chinese Mustard, *post-paid*, 75c per lb., Linden, *post-paid*, 50c per lb. Warranted strictly pure, fresh and clean. Prices for *less* quantity than above, and for *all* other seed remain as given in March No. (current Vol.) GLEANINGS.

Address carefully, C. F. LANE'S N. W. Apiary & Seed Warehouse, Koshkonong, Rock Co., Wis. 5-6

## Columbia Apiary.

### Queens from Imported Mothers for 1876.

We will send Queens the coming season as follows:

| | |
|---|---|
| One tested qeeen from Imported Mother | $3,00 |
| Untested queens " " each | 1,00 |
| Nucleus, with tested queen " " " | 6,00 |
| Colonies " " " " " " | 10,00 |

Safe arrival of *all* queens *guaranteed.*

STAPLES, ANDREWS & VAUGHAN, Columbia, Tenn.

**Every Bee-keeper should subscribe for it.**

## The American Bee Journal,

Is the best scientific and practical Journal of APICULTURE in the world. The most successful and experienced Apiarians in Europe, as well as America, contribute to its pages. In fact, it is the *oldest* and *largest* BEE PAPER in the English language. **$2.** Per Annum. Send a Stamp for a Sample Copy. Address THOMAS G. NEWMAN,
tf 184 Clark st., Chicago, Ill.

## "VINEYARD APIARY."

*AGAIN WINTERED SUCCESSFULLY.*

Tested queens or full colonies furnished again this season in my Non-Patent Hives. No useless traps or fixings about them. Send for Prices.

4t8 JOSEPH M. BROOKS, Columbus, Ind. Box 130.

## HONEY BEES.

SEND for E. W. Hale's price list of Queens for the year 1876. All Queens raised in full colonies and from Imported mothers. No Bee disease in my locality.

4-7d Address, E. W. HALE, Wirt C. H., W. Va.

## CHOICE CATNIP SEED.

I have a lot of Strictly Choice seed, collected from cultivated plants by M. Nevins, of Cheviot, O., which I will sell at 5oc. per oz., or at $6.50 per lb.

CHAS. F. MUTH,
3-8d Cincinnati, O.

**WM. W. CARY,** Coleraín, Franklin Co. Mass. Sixteen years experience in propagating Queens, direct from imported mothers from the best district in Italy. Persons purchasing queens or swarms from me will get what they bargain for. Send for circular. 3tfq

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THE *ONLY* RELIABLE.
THE *MOST* BEAUTIFUL.
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Requires no oil thinner or drier,
Requires no waste of time in mixing,
Has stood *eight years' criticisms*
With *yearly increased popularity*
And *yearly increased* sales.

Is sold by the gallon only, in packages of from 1 to 40 gallons each, in Purest White and any Color or Tint desired.

Address, for sample card of colors and price list,

**Averill Chemical Paint Co.,**
Office and Factory 132 & 134 East River Street,
CLEVELAND, OHIO. 6-6-'76

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FULL STOCKS $12.00 to $15.00. Tested queens each $3.00. Warranted queens each $2.00. Bred from imported and selected stock. Sent by mail.

Address, T. G. McGAW,
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| | |
|---|---|
| 1 lb. Round Jars per gross | $5.50 |
| 2 " " " " " | 7.50 |
| Corks " " 75c. and | 1.00 |
| ⅓ Pt. Honey Tumblers, plain or ribbed, per doz. | 40 |
| 6 doz. in a box. Packages | 40 |
| ½ Pt. Honey Tumblers, plain or ribbed, per doz. | 50 |
| 6 doz. in a box. Packages | 45 |
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| 6 doz. in a box. Packages | 40 |
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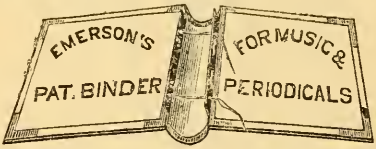
Also Window Glass, Lamp Chimneys, and Glassware of all kinds. For sale by B. L. FAHENSTOCK, late B. L. Fahenstock, Fortune & Co., Glass Manufacturers, 76 Wood St., Pittsburgh, Pa. 11tf



You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though t were months ago.

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|---|---|---|
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## Books for Bee-Keepers.

SENT postpaid on receipt of price.

| | |
|---|---|
| Langstroth on the Hive and Honey Bee | $2.00 |
| Quinby's Mysteries of Bee Keeping | 1.50 |
| Bee Keeper's Text Book, muslin, | .75 |
| " " " " paper, | .40 |

These are the best, but are all far behind the times.

A Manual of Bee-Keeping, by John Hunter.....$1,25

This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

## BOOKS for BEE-KEEPERS and OTHERS.

[Any of these books will be forwarded by mail, *post-paid,* on receipt of price.]

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Made entirely of metal, $8.50 to $10.00 each. The lightest, strongest, handiest and best. You can save about $5.00 in express charges, passing the customs and duty, by ordering from me. I manufacture for Canadians to save them the enormous expense and trouble of importing. In ordering, give outside dimensions of frame or frames to be used. Sample Hives complete, the best for Canada, $1.50 each. Italian queens and bees for sale in their season. Parties in the United States should order extractors from A. I. Root, Editor of GLEANINGS, who makes the cheapest and best.

D. A. JONES.

It$1.80 Beeton P. O., Ontario, Canada.

# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
*Publisher and Proprietor,*
**Medina, O.**

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**Established in 1873.**

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Vol. IV. JUNE 1, 1876. No. 6.

## OUR ITALIAN QUEENS.

WE clip the following from the Los Angeles *Herald*, of April 29th.

We received last week four fine Italian queens from the apiary of Newton Levering, of Oro Fino, Cal. We were very much pleased with our royal pets of golden hue. Had they been as dark as a Modoc, or as black as the ace of spades, the enormous express charges were enough to make them appear as yellow as the gold of Ophir. Their majesties arrived in good order, and have entered into new scenes and formed new associations. When we introduced them and saw them surrounded by a retinue of tiny subjects who seemed to vie with each other in their attentions to their new sovereigns, our admiration was wrought up to fever heat, and as we watched the royal reception and beheld these welcome dignitaries walking forth with stately tread and queenly airs, robed in their golden colors, without pull-back or chignon, and attended by their loyal subjects, we involuntarily exclaimed:

O beautiful golden queen,
The fairest that eye hath seen,
With stately tread she doth roam
O'er snowy fields of comb.

When the muse suddenly dropped into our memory box the following beautiful lines:

### My new Italian Queen.

BY JAMES MARLIN.

So stately is thy step and mien,
Thou needs't no diadem to show
That thou art every inch a queen,
As true as reigns the moon below;
And sooth thou'rt of a regal line,
Of ancient name and "right divine,"
The eldest dynasty of earth,
That saw the Assyrian empire's birth,
Rich Babylon, and queenly Tyre,
And Troas, famed of Homer's lyre.
It saw proud Rome her eagles raise,
And Venice in her palmy days,
The Adriatic's haughty bride.
It saw them rise in pomp and pride,
And saw them sink in blood and crime,
Those empires of the olden time—
Outlived them all, thy royal line,
And reigned 'neath Italy's skies divine.
The lilies pale, by Arno's wave,
The rose that blooms on Virgil's grave,
Have lent such nectar to thy lip,
As envious fairies fain would sip.
But with thy tiny retinue,
To bathe thy feet in Western dew,
Thou'rt come to soil by freedom blest—
Like man's proud empires moving West.
Here, though no Horace ever sung,
Or Cæsar proud his legions led,
The flowers are sweet as on the fields
Where slumber Rome's historic dead.
Wyoming's sweet romantic vale
Hath flowers as fair and fields as broad
As scent the breath of Eastern gale,
Or bard or Cæsar ever trod.
Then welcome, royal traveler here;
Begin thy peaceful Western reign;
Possess the dew upon the vines,
The flowers upon our boundless plains.
I almost long to raise the cry,
Long live the golden-belted queen!
Bright wanderer from Italy!
We'll rear thy palace on the green;
Yon hive beneath the cedar tree
Thy stately Buckingham shall be.

## BEES ON SHARES.

AFTER some inquiry we gather that the customary way of letting bees out, is to hand them over in the spring, say May 1st. The party who takes them is to furnish every thing in the shape of hives, transfer them if necessary, and do the very best he can to increase the value of the stock handed over to him; and after the honey season is over, the honey and bees are divided equally. In this way the risk of wintering is thrown entirely on the owner of the bees; if he gets them through until May again, he is ready to let them on the same terms as before. If the party who manages them takes away so much of their honey that they will not winter, the loss falls on himself as well as the owner; for when the bees are divided the stocks are chosen alternately, as is usual with farm products. If it is thought best to Italianize, the managing partner stands all expenses unless it be the cost of an imported queen, and as this is quite an item, they usually agree to divide the expense. Should the season be a very poor one, so bad in fact that there is neither increase nor honey—if such seasons *do* occur—the owner loses half of his bees, or rather gives half of them for having the remaining half put in good hives and ready for business. If the season should be an extra good one, he receives a good income from them, with original No. of of colonies or more, and all in good hives, etc.

## PATENTS, WINTER REPOSITORIES, Etc.

DEAR GLEANINGS:—As for me, I would like the type as large as the largest, and I am willing to pay for it. When we received the March No. of GLEANINGS and read your advertisement of comb foundations for sale, we were in high spirits, and made arrangements to send for 30 lbs. If April No. had been a few days later we should have sent the money. But oh, when it came and we read it, there came over us a sickening feeling, such as we once felt when we lost $3000 in patent rights. On thinking the matter over, it occurred to us that we had read of artificial honey comb made years ago. We then began to think the patent invalid and to plead ignorance for you in the matter, hoping to hear more in regard to it in your next. If it is a valid patent we will have nothing to do with it, neither will we purchase any foundations. But if it is doubtful let all who take your valuable GLEANINGS say how much they will give to have it tested. Who speaks first?

Last fall, we placed 72 stocks of bees in a double walled repository where we kept them last winter with success; but the present winter it has proved too warm. As our ventilators were too small we opened the door nights, but it only made the matter worse; and on the evening of Feb. 11th, we got some help and set them on their summer stands. The next day wind in south but, many perished, and brood raising was checked, but we resolved to let them remain out. To-day they are all but two in good condition, one actually starved through oversight. The other we let fall, and the comb being new, broke so badly we were obliged to unite them with another stock. We made another repository for an experiment, (we have experimented in two or three different ways each winter for the past twenty years) and when we got our bees in we felt a little sorry that we had put in so many, but it was made so cheaply, (only four day's work) while the other cost $115,00, we felt a little consolation. We watched it with care and lo, the results. They were more quiet, though rats by hundreds ran over and around them. The heat from the bees, made the hay-mow above warm, and it seemed that all the rats in the neighborhood were aware of it and availed themselves of the comfortable winter quarters. April 11th, set them out well stocked up with bees and brood; the next day they began to bring in natural pollen.

May GLEANINGS reach its thousands.

W. H. BALCH, Oran, N. Y.

Who has not some time in life felt that sickening feeling upon discovering that they had been deluded into letting their hard earnings go for something perhaps worse than useless? We have had our experience, but not to the amount you mention, friend B. We have more than once wondered why farmers could not arrange a bee room in their barns in such a way that it might be covered with hay—the centre of a large hay-mow must certainly be frost proof—during the months that the bees would occupy it. It could be kept dark, dry, and quiet; and abundant ventilation might be given by having it made entirely of slats just sufficient to keep the aforesaid rats and other vermin outside. Double doors could be made to give a most perfect protection from extremes of weather. The past winter has shown our ordinary wintering houses with saw dust walls, quite inadequate, and a great part of the cellars are too damp.

## NOTES FROM OUR EXCHANGES.

I WOULD suggest that you prepare a sort of abstract from the good things contained in other Bee Journals; any thing of practical benefit in those of the previous month. Medical journals have such a column or page. Should Bee Journals be so exclusive as never to quote from each other? So many reports of individual success are apt to become tiresome. Let them give more minutely the methods which lead to success.

J. C. THORNE, M. D.
Garafraxa P. O., Ontario, Canada.

Very good friend T., but are you sure GLEANINGS has the tact and good sense needed to carry on such a review, and yet avoid saying anything that may cause unpleasantness? Now you have suggested the idea, and are familiar with the way in which you of the medical fraternity do it; by the way do you never get sharp and unkind any of you? We sincerely trust you have too much good sense and —education. Will you please call us to order if you should at any time think it desirable.

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The *World* for April contains a rare bit of humor in the shape of a communication from "W. B. E." We wonder if his aunt does not rejoice daily in the possession of such a promising nephew. Are we to understand that it is really our friend "Annie" who had her "king" bees managed thus in her absence? The idea advanced by Mr. Parker, on page 141, that spring feeding is connected with spring dwindling, is a point that should be carefully examined; before we saw the article, we had observed symptoms that seemed to point in the same direction. We are very happy indeed to note the rapid progress the South is making in the production of honey, and that they seem too busy to heed the discussion that has been going on at the North as to which way was most profitable for surplus. The demand from the South for extractors is unprecedented, and we have heard no word of any trouble in regard to disposing of the large crops of honey secured at several points last season.

In the *A. B. J.*, for March, J. R. Bledsoe advances the idea that foul brood is contracted from foul places where the bees go after water; and that if they had a place where they might always be sure of finding a regular supply of it clean and pure, foul brood would not be known. Now even should this be a mistake, it will do no harm to act on the hint. A few days ago we found the bees from our best hive —Quinby—going out and in so busily that we determined to see what they were in quest of, and in a minute saw that each returned with a load of what we judged to be *water* from the size of their bodies, and the ease with which they flew, honey being much heavier. We repaired to the brook where they were wont to go, but found none. Not to be out-done, we took up their line and soon found them loading up at the greenest and most nauseous outlet to one of the sewers, that could well be imagined. They worked thus for more than two hours. Since we have been reminded of it, we will go this minute and fix a glass jar filled with water and inverted, as described in our July No. of Vol. II. S. K. Marsh thinks those who have had brood killed by using the extractor, used machines so clumsy, that they shook the life *out* of it. It may be. Henry Bosshard, of Highland, Ills., has a pair of plates for comb foundations, that came from Europe; and he has made and used the article successfully, nearly the full size of frames 11x12.

We are very glad indeed to know that the *Magazine* has a desire that bee-keepers may abandon the idea of selling individual rights, or of having patent monopolies. The April No. presents very fair evidence to the effect, that king birds do *not* eat bees. From our own observation we can hardly think them innocent in all cases, and should be glad to have further facts in the matter. Capt. Hetherington remarks as follows in regard to wintering and springing:

> It has been rather humilating to most of us, certainly so to me, not to be able to meet the change in climate, or whatever it may be, and thus avert the great mortality in wintering and springing, that is so fatal to our business.

## MOVING BEES, BURYING BEES, PATENTS, ETC.

DEAR GLEANINGS:—I remember the motto at the head of the columns of the old *Prairie Farmer*, "Farmers, *write* for your paper," and I think it would be a good motto for a Bee Journal. I am pleased with the leaded type now used in GLEANINGS and if any thing I can write gives one half as much pleasure and profit to others as their letters and your comments in GLEANINGS do to me, I shall not regret the time spent. I frequently get letters enclosing stamps, from different parts of the country, asking me very kindly if I will explain to them my method of managing bees, of making a cheap extractor, or some other information pertaining to bee culture; these, if all answered separately would take more time than I can spare, as many besides myself have found. Now I am willing to make public all "I know about bees" through your columns; subject of course, to your supervision. But most of it would be only a repetition and an endorsement of the theories and practice of those who contribute regularly to GLEANINGS.

I can not refrain however, from protesting occasionally when I see theories advanced that do not seem practicable, or that I do not think sound; as for instance, when friend Heddon declares in *Bee Magazine*, that no one can keep bees successfully except those who make it a specialty, or as now, that "all bee culture is vanity and vexation of spirit." Well, I must not forget my report for 1876.

I took my bees from the pit April 8th, all in good condition. The following day I was absent and one stock was overpowered and robbed, leaving 23 swarms. I gave away one, and now start the season with 22 swarms none of which I hope will be permitted to starve, *a la* Novice, before flowers. My bees worked 5 days on rye and oat meal before poplars bloomed, and all had brood in every stage when taken from the pit. I had great hopes of the comb foundations while you had the machine, but at $1,50 per lb. I do not expect to use any. I think with sectional boxes and cheap foundations I could work some bees on comb honey profitably, but at present prices I shall stick to the slinger. Many have written me about extractors. Now I say confidently, having just had mine rigged over by a mechanic, that your extractors are as cheap as a mechanic will make a wooden one like mine.

I moved my bees to where I now live, this spring, on wagons without loss of any kind. Distance three miles and roads very rough. I made a frame of lath the size of the front of my hives, covered it with wire cloth, fastened the cap on the hive, tacked the wire frame on the front, put 4 inches of straw in the box of my lumber wagon, set the hives 4 inches apart, packed straw tightly around them except the front, and drove along. The bees soon came out and clustered under the wire frame, riding safely.

I find that extracted honey is improved, in appearance at least by standing 24 hours in an open vessel, and being skimmed before barreling. I believe certain kinds of honey will not candy under any circumstances, as I have some two years old in Muth's jars, in a drug store window, as clear as ever.

My brother-in-law, J. T. Morris, now knows by experience that bees can be robbed by the extractor so late in the fall as to die from want in the winter, his bees, 7 swarms, being all dead when we opened the pit this spring, with not a cell of honey or a particle of the candy we laid on the frames last fall, remaining.

There is a man near here who never heard of Mr. Wagner or his patent who has made artificial comb by casting in moulds; and it seems folly that Mr. Wagner's patent should cover the making of artificial comb *by whatever process.* If that is so, some fool will patent the *process* of raising queens by any method, and go and take your lamp nursery away from you. Novice, don't you go back on the position you have so long maintained of hostility to patents in bee-culture. We look upon you as our champion. The money you have already saved to the bee-keepers of the country would build a monument of marble over your grave, as high as Bunker hill.

I say to every bee-keeper, wear a light bobinet [we would say tarlatan instead.—Ed.] veil on your hat when at work among bees, and at the first sympton of anger among them drop it over your face and neck; but gloves are a nuisance. I find a roll of rags all the smoker I need. Butter firkins holding 150 lbs each, are the nicest honey packages for my use. Drive the hoops tight, nail the outside ones and wax the keg tight. Bees are never assessed here, as they are not salable property at any price; most people considering them a nuisance around a place, and bee-keepers being all supplied.

Don't let anybody be so foolish as to extract honey before it is ripe. This sometimes may get thicker by standing in an open vessel, but will generally get thinner.

Bees having stores sufficient, wintered well in this locality in cellars, pits, and out-doors everywhere.

R. L. JOINER, Wyoming, Wis., May 2d, '76.

## VERY EARLY QUEENS.

GLEANINGS for May just at hand. We note your remarks on page 101 regarding the sale of early queens. You say you think it unsafe to offer them before June, but that we "might perhaps safely agree to furnish them a month sooner." Now in this matter we have gained a little experience, as in other things, but I can assure you it is a sad one. One case: I have raised quite a number of queens, and have shipped, as I advised you, see page 102, a few queens early in April which reached their destination safely. In the latter part of the same month we shipped quite a number, some going as far south as Texas, others as far north as New York. We have reports of all, and only two reached their destination alive. These two went to Illinois. When we mailed them the weather was pleasant, but suddenly changed at night turning very cool; at this writing it is almost freezing. With this experience we have arrived at the conclusion that we cannot "safely agree to furnish them a month sooner" than you can, and would much prefer refunding to all who have ordered of us, to undertaking to do so, and have so notified our customers. I will never again agree to send out queens, guaranteeing their safe arrival, before the first of June.

We are in receipt of an imported queen from Dr. J. P. H. Brown, and are very much pleased with her. Her workers are uniformly and prettily marked; though somewhat dark, they are not *black*, like Dadant's. Yours truly.

W. J. ANDREWS, Columbia, Tenn. May 2nd, '76.

## BUZZ-SAWS.

I HAVE had experience enough to know about what we want for man, and one-horse power. I first got a cheap one-horse power and run my saw without using any balance. I soon found it a poor thing, as it is impossible to keep the motion up. I next bought the No. 2, "V. M." gear of the Combined Power Co., because they claimed it had "leverage." I was afraid it would prove a humbug, and so it did. You can no more use a cog wheel as a lever, than you can fly. And this isn't all the ridiculous feature about the *thing;* talk about one man running a saw 3000 or 4000 revolutions per minute! why, your power is used up in running the gearing, and you have none left for sawing. I took off three-fourths the gearing and run the saw 700 or 800 revolutions, and found I could run more and much easier, from the fact that it takes but one-fourth the power to run the saw. I put a 27 lb. balance on my saw shaft, and find that two balances are much better than one, especially if they are both light; the balance on my gearing weighs only 35 lbs. It may be possible that one heavy balance would do nearly as well as two lighter ones, but I think it doubtful. I find I can saw fully twice as much with a man at the crank, as I saw with the common treadle. I suppose the heavy foot-power machines have the advantage in the treadle as you can tread three or four times before the shaft turns round; *there* is where the leverage comes in, and were it not for that advantage, I think you could not get the motion up at all. Give us facts, *we* are willing to pay for *them.*

R. S. BECKTELL, New Buffalo, Mich.

We think friend B., you are a little rough on the "V. M." After the saw is tread up to the enormous velocity of which it is capable, it will saw through quite an amount of heavy work, which it could not well do were it not for the power that is accumulated, or stored up as it were, in the balances. To illustrate: if you were to attempt to push a nail into a board with the face of a hammer, you would find your strength wholly inadequate, but you could perhaps easily sink it to the head by raising it above your head, and accumulating power by the descending blow. The V. M. enabled us in the same way to mass the power applied, so as to saw for a short time on very heavy work. We have sawed 2 inch pine, in lengths for section boxes, without stopping at all, for sufficient power could be collected while drawing the work back, to send the saw through, scarcely slacking the speed. It requires an amount of practice to use the V. M. to the best advantage, that is not needed for the $35.00 machine, and as the latter is ample for doing almost anything required for bee-hives, we give it the preference. The balance wheels on the saw mandrel, we find a great nuisance in cutting up stuff for hives. The small machine when raised, as it always should be, so the saw just reaches through the stuff, leaves the table top entirely clear, so that we may cut a board of any width or length.

### A WORD ABOUT HAND POWER SAWS.

I bought the only one of the kind I ever saw, six weeks ago second-hand; it was made near Grafton, Ohio, and is a perfect success. It goes by crank power, therefore requires two men to work it, but one man can run it to its full capacity then let go of the crank and run a ⅞ twelve foot pine board clear through before it stops. I can also saw 2½ in. black walnut, much faster and easier than we can with hand saws. With two men changing about every five minutes, it can be run quite easily. My business is building and stair building. I have made an arrangement by which I saw all the dove-tails of my stair balusters with it and would not take what I gave for the machine for that one purpose alone. The machine probably has cost about seventy dollars, I have also a boring attachment to it. Should you ever come to this city I will be pleased to show it to you, or any of the readers of GLEANINGS, at No. 95 Scranton Ave. Cleveland, Ohio.

A. A. FRADENBURG.

## DEPARTMENT FOR BOX HIVE BEE-KEEPERS.

AND why so many departments that are often dropped in a short time? some may say. Well, you see GLEANINGS is somewhat on the Natural Selection, or Survival of the Fittest plan, and we start a department to see if it is going to be kept up, thinking we shall perhaps hit a sympathetic cord in the hearts of some of our readers after a while, and then they will keep up the department themselves. Now who knows but that this column may be the shortest road to "how to realize the most money etc.,"—you see we haven't lost sight of the idea, even if our compositor did take the motto away to make room for his new type. Read this:

EDITOR GLEANINGS:—You are correct, my subscription expires with the present number. I have found it a very good investment indeed, toward the attainment of some knowledge of the theory, as well as practical teachings of yourself and your many correspondents. I am indeed highly pleased, and have been agreeably entertained; but as I have neither the kind of hive you describe, the extractor, nor comb foundations, be not surprised at my seeming want of appreciation.

My bees are mostly in box hives, with supers on top. Came through the winter without the loss of a single stock. I have a few stocks in movable frames; of course the hive is a patent concern with moth trap, which (humbug) catches more bees than moths.

The small surplus frames placed in the top of the brood frames, no doubt have some advantage over boxes placed on the outside, in a cool season, but the inconvenience of having to draw the *inside of the hive out* to get at them (and that in front of the hive too), is certainly a serious objection, when all are fastened back with propolis. I have made a double set of these frames for each hive. I should have written to you ere now, to know if I could find any better use for them than kindling wood!

Dear GLEANINGS, I am sorry that for the present at least, we must part company; your monthly visits have been very punctual and very welcome, but you are far in advance of my ken. I have carefully filed your past No's away for a re-perusal. I am now the pupil of an older teacher—M. Quinby's "Mysteries of Bee-Keeping." He is more explicit on the management of box hives than any other author I have met with. Thankful for past favors, I remain,

WASH. LEWIS.

P. S.— THE BEST MOTH TRAP.

I have found placing open-bottomed box hives on bricks instead of boards, in the summer, and during the time they are most likely to be infested, the best moth trap. The coldness and hardness of the bricks, completely preventing the formation of the cocoons on the lower edges of the hive. In winter use the Quinby bottom board. W. L.

Kappa, Wis., May 7th, '76.

Now friend L you doubtless have done a very wise thing in dropping our company, but you certainly have put your foot in it badly in some other respects. Make your patent moth trap hives into kindling wood by all means, and then, if you will go back to box hives, please do not accuse Mr. Quinby of advising any such course. A short time ago we were talking with a neighbor who used box hives; during the conversation he remarked that he took Mr. Q. as his guide. But said we, "Do you not know that he uses and advises frame hives, Italians, etc."? He knew nothing of the kind, but supposed of course that he kept bees in just the same way as he advised in his book that was published a little more than 25 years ago. Perhaps no writer has more vehemently insisted on having bees where the queen could be got at and seen, than Mr. Quinby. But perhaps this is the wrong way to conduct such a department; so we will only remark that in our experience those holes covered with wire cloth have always been waxed over tight, the very first work the bees did. It is very true we *do* want some very simple and easy method of keeping bees that will enable almost any one, with little expense, to at least *undertake* raising the honey they wish for their own table. If we are to use box hives, they may just as well be made one shape as another, and as the L. hive will give more box honey than anything taller—we believe all are agreed on this point—we would urge the importance of making the boxes of about the shape and capacity of the comb chamber of this hive. Besides, the combs can then be very readily transferred into L frames when you or your children get ready to do it; and we do believe the L. frame is very soon to be the one of all others. Our orders for hives and frames, this season, are 9-10 of them for this size, and while we are about it why not allow the bees to build their combs in such a way as to favor such transferring? Now we will tell you how to make a hive that is about as cheap as any box hive, though it will admit of being used for all purposes as a movable comb hive, if we take a little more time in handling, and yet it is a box hive and may always be used as such.

HOW TO MAKE A BOX HIVE.

Get a bundle of lath, cost, 13 cents. Cut off 10 pieces 19¼, 20 pieces 10, and 5 pieces 17⅝ inches long. Stand the short pieces on end, and nail the long ones into the ends of them so that the uprights are just 17⅝ inches apart, *inside* measure. Use slim finishing nails if you can as well as not, and put two nails in each joint. Now saw the 5 pieces in two lengthwise, and use one of the halves for a bottom bar, nailing it between the uprights so it will be 9⅛ inches from the top bar. Ten such frames can easily be made for 20 cents, and when they are set together and a board made to close the two outside ones, we have a box hive that can readily be taken apart after the bees are dead, if it cannot before; and almost any bee-keeper will give 25 cents each for the empty combs, even after the bees starve, if we can manage to have them build them true in the frames. To do this, we tack in a comb guide made by sawing ⅛ inch strips from the aforesaid lath. If you cannot saw them as thin as this, make them a little heavier; or if it is too much trouble, just get your wife's ball of wax and draw a—not chalk mark, but wax mark clearly in the middle of every top bar. The side boards are to be just the size of the frames, and they are kept in place by a lath across each end of the hive, with a screw that goes through them and into the centre of the end of each side board. If the boards are put on with the heart side of the lumber outward, the more they try to warp, the tighter will be the hive. This hive like all box hives, is to be set on some kind of a bottom board, and is to have a cover laid over the top. As we are to adopt nothing complicated, perhaps the simplest way to keep this cover on, will be to lay a stone over it in the good old way; but we confess to having a particular antipathy to the plan, even if it is quite common. For an entrance, raise up one of the side boards slightly, this is even easier than sticking a wedge under one side. Now to lay aside jokes, this rude hive will admit of using the extractor, introducing Italian queens, using the comb foundations, and in short will answer all purposes of modern bee-keeping if we except speed and convenience in manipulating. If you cannot make them for 50 cents, we will furnish them for that price with a dozen universal section boxes to put on top. If you get any swarms before our next visit that you are tempted to put into box hives, please put them into this kind, and we will tell you next month how to manage them farther.

It will be observed that we have made the inside of these frames just equal to the outside of the L. frames, that we may by trimming, get a nice full comb. Also, as our new frames will hold together without any corners, they may be slipped inside these lath frames if we choose, thus having the combs all built in L. frames and so no need transferring, and metal corners can at any time be put on them very easily; yet the expense is only 20c. extra, or 70 cents for our box hives, with L. frames for the bees to build the combs in. Such hives might prove convenient in any apiary for hiving bees that come out unexpectedly, and late swarms that cannot winter. We will pay 25 cents for combs built in such frames; or in other words we will sell you the hive for 70 cents, and pay you $2.50 for the same when filled with comb, even after the bees have all died. If the combs are clean and new, you can probably get more than that in your own neighborhood. You can see when they are being built straight in such a shallow hive, by simply raising it on end. Who will in this way at a small expense, undertake to supply the growing demand for empty combs?

[ For Gleanings. ]

## VARIOUS ITEMS.

BY G. M. DOOLITTLE.

IN April number of GLEANINGS you invite brief statements concerning C. O. Perrine. In the fall of 1871, I received letters from him, wishing me to buy honey for him, he sending me cash to give to the parties that would sell honey at the prices named, to hold it for him from 30 to 60 days, he stating in said letters that he would pay so much for it, delivered at R. R. I went to my bee-keeping friends, read them his letters, and told them I had confidence in him, and should send him my own honey. To those that concluded to let him have their honey I gave $5. or $10. as the case might be, of cash sent. He ordered the honey shipped about Oct. 1st, and we took it to R. R. (about 7500 lbs.) expecting to find money there but failed to find it. We finally concluded to send it on to Philadelphia, he being in business there at that time. About the time it arrived in Phil., Chicago burned, but as our honey was not at Chicago of course it was not burned, but was sold at 50 per cent above what he agreed to pay us for it. All we could hear of it through him was that it was received in splendid condition and was very nice honey; but as he had lost so heavily by the fire he could not pay for it. I wrote him 42 letters in all, and after pleading and begging for those that were suffering for the want of it, I got one-third of it and the rest we had to take his notes for, due in June 1874. When the notes came they were without interest. A part of my bee-keeping friends thought I was holden for the pay for their honey and I was obliged to get counsel, etc., which did not result in our being on as friendly terms as before, I will assure you. If we want comb foundations will he trust us in the same way? "The cash must in all cases accompany the order," does not sound much like it. Now one word to the readers of GLEANINGS. If you want comb foundations or anything else, pay for it; and if any honey dealer wants honey, demand the cash for it. This letting them have the staff all in their own hands is something like the boys and the frogs "fun for them but death to us." If they can not afford to trust us as we do them let them send the money to the express agent where the honey is to be delivered, and when he sees that it is all right and in good order, then demand the cash or hold on to the honey.

If Mr. Wolfenden (page 83) has queens that will not keep more than a part of three frames filled with brood in July or August they can not be good for much. We never knew a good queen to be crowded at any time when there were bees enough to work in boxes. In apple blossoms when there are but few bees and those mostly old ones the case is different.

### HOW TO FIND A QUEEN.

If you will excuse us, we would like to tell Mr. Chapman how to find a queen. Proceed as Novice says on page 107, till you get the quilt off, then bear in mind if the time of day is from one to three o'clock, that as a rule the queen will be on one of the outside brood combs no matter where the bees are thickest; if from seven to nine o'clock in the morning you will find her on the centre brood comb, or if 6 to 8 combs are filled with brood, on one of the three centre brood combs. The principle is that at from one to three A. M. the queen is at the outside of brood nest then returns to the centre getting there about eight A. M., and then continues on, arriving at the opposite outside at about two P. M., then back again getting on the centre comb about eight P. M. Thus she traverses the whole brood nest twice every 24 hours. This is when the colony is in its normal condition. If you are spreading the brood as given on page 135, Vol. II, it breaks up the regular operations of the queen and you will usually find her on the frame you put in the centre of brood nest. The queen is nearly twice as long as a worker, in the breeding season. Thus it is quite an easy matter to find a queen unless you are obliged to smoke them so as to get them running like a flock of sheep, which is frequently the case with blacks or hybrids; then you want to look in all the corners of the hive, or out under the bottom board, if the bees can get there. Drones in winter, does not with us denote a drone laying queen. Three winters since 1869, we have had drones wintered over. In the spring of 1874 we had drones flying in March almost as thick as in midsummer, but they soon died off of old age or were killed by the colonies and driven out, just as we see them in Aug. and Sept.

We tried to save Novice from falling into an error on page 27, present Vol., and now he seems to be liable to fall into a still worse one. See what he says on page 113, first column, a little below the middle of column. Too much stores at this season of the year will just as surely spoil the stock for box honey, as it would to let them starve. We did not say on page 27 that a weak swarm hived on 9 frames of sealed honey in the months of April or May would carry said honey into the boxes. No sir! they would always be weak and there is no such thing as filling the combs with syrup now, and then getting boxes filled with clover honey, for where would the bees come from? In the cases given you on page 27, we had the bees (and a hive full too) of all ages, and the way we got those bees we gave you on page 135, Vol. II. E. Gallup says in *A. B. J.*, page 6, Vol. IV, "We must never allow the bees to get in advance of the queen, for if we do the prosperity of the swarm is checked at once; that is, if the bees are allowed to fill the combs with honey in the spring before the queen has filled them with brood, the swarm will be an unprofitable one." You can not get honey without bees. Our 9 Gallup frames give us 45000 worker bees every 21 days, and a queen that is good for anything will keep the frames full of brood if you have on boxes with such a force of bees as that in July and August; but give the same queen but 5000 bees and these old ones, and they will crowd her down to a part of three frames every time. If our hives average 5000 bees on the first of May they are what I call extra good stocks, and if you give them what honey or syrup they can can carry during the month of May, you will have about 5000 bees in your hive all summer. We agree on page 115 that we never see too much honey in the hive in the fall for wintering. If every frame is full it does no harm, for by the first of Nov. they will have eaten enough for empty cells to cluster in.

We do not consider such colonies as Mr. Roop tells us about on page 115, any better at that time of the year than one that would enclose 5 frames or occupy 6 spaces. We never could see, when Novice was in his ecstacy over the manure heaps around his bees, what the object was in getting bees strong enough to swarm in April or May, as white clover does not commence to bloom until about June 20th, and before that these strong colonies will consume more than they will gather if they have no honey in the hive on April 20th. Any one of ordinary ability can build a quart of bees up to 60,000 in six weeks, with a June temperature. If any one will give us a quart of bees in a hive on an average, the 10th of May, we will ask for nothing better. We did not average one-fourth that on the 20th of May last year.

Borodino, N. Y., May 10th, '76.

[Just a word in defense of Mr. Perrine. Many a man when Chicago was burned, was *unable* to pay his debts at all. That Mr. P. did pay up all finally, is to his credit, although there may be no excuse for his not paying for *your* honey, which was received in good order and sold at a good price. We should exercise plenty of charity toward our neighbors should we not, friend D.?—Ed.]

## THICK COMBS, SECTION BOXES, ETC.

HAVE you tried thick combs, say 1¾ inches thick, for the extractor? I think they would be just the thing we want, without being troubled with brood. Would like to have some drone comb foundations rather large so the bees will finish them. I am an extractor man and all the comb honey men in creation can not persuade me to believe that I am wrong. You had better make up your mind that you will not be deceived by dishonest comb honey men.

R. S. BECKTELL, New Buffalo, Mich.

We have used thick combs with the extractor, and have repeatedly advised them. At the time we transferred our American hives to the Langstroth, we saved all the drone comb and put it in frames by itself, and have almost every season found these drone combs much the most convenient when we succeeded in preventing the queen from using them. We can generally succeed in doing this by placing them at a considerable distance apart, being careful not to get them so distant *at first*, as to allow them to build a small comb in between. As the cells get lengthened we can put them farther apart, and we last season had one such comb weighing when filled, 11 lbs. With such combs as these, the labor of extracting is very much lessened, for the bees are brushed off from them in much less time than they can be from combs containing brood; and we get as much honey from one, as from three ordinary combs in the brood apartment. To really enjoy the work of extracting, one needs to have a comb of this kind so heavy as to fairly make the wrists ache to carry it, and then after the uncapping is done, you feel that such a flood of honey as pours into the barrel as you commence to whirl it, is really worth while. As you carry them back to the hive after being lightened of their contents, you must be unimpressible indeed, if your countenance does not soften into a smile when you consider what a very easy matter it is to get the honey out of the hives, and in the very shape in which it is wanted for food. What do you suppose the bees would do if they were furnished with drone comb with cells nearly twice the ordinary size? Would they use them for honey when crowded for room, and would there be any danger of the queens laying in them if she could go down into them and turn around? Please don't smile, any body, for just as sure as you live we are about trying that very experiment, so no one can patent it? Do not fear friend B., we shall always be with you in the extracting business.

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I would like to know how wide to get out my lumber for section boxes, as I want as few as possible in each box (that is sections) so as to be sure and have a single comb in each. Do they need to be 1¾, 2, or 2¼ inches? I have had bees make combs the whole size of Langstroth box, but they can not be depended on.

E. STANHOPE, Pentwater, Mich.

How thick will bees build combs of honey in boxes, and build them regularly, that is, if pieces of comb are put in for a start, how far from centre to centre must they be, to prevent their building a strip of comb between them occasionally?

CHAS. H. RUE. Manalapan, N. Y.

A matter that is undecided. Section boxes are used of all the widths you have named; Harbison makes the narrowest we believe, and we do not know his reasons for making them only 1⅝. Doolittle and Wheeler. make them about 1¾; and Isham has the glasses in his one comb boxes about 2 inches apart If you have them as far as 2¼, we think there would be much likelihood of having two thin combs built; the foundations probably would correct this. Who will test it first?

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*Bloomington, Ills., Feb. 4th*, 1876.

I want to try for box honey next summer. I have the Quinby box, with four glass sides, top and bottom wood. This is a nice box, but too expensive for this country. C. F. Muth, of Cincinnati, sent me a sample of his box with two sides glass, balance wood; says he can furnish them at 10 cts. each. This seems cheap enough. But the box appears to be too small. Please get all the information you can about honey boxes and give us an article in GLEANINGS entitled, *All about honey boxes.* Also please give us an article entitled, "All about glass honey jars and glass honey tumblers with glass covers." Some of our grocery men here have honey for sale, put up in glass jars with glass covers, holding about two pounds. About three pieces of white comb capped over are put into a jar first, and the jar is then filled with extracted honey or *something like it*. These jars of honey were bo't of C. O. Perrine, Chicago, and are sold here at 75 cts. each. Another 2 lb. glass jar, with a better and handsomer glass cover, filled with comb and liquid honey, same as the Perrine jar, is sold here for same price. Honey is put up in this jar by A. Kernberger, 231 W. Randolph St., Chicago, and sold to our grocers. The said A. Kernberger, puts up and sells honey both comb and liquid, in 1 lb. glass tumblers with glass covers. The glass covers for the Kernberger jar and tumblers have a glass rim around the outer edge, which fits down over the outside of the jar or tumbler in a very neat manner. The questions are, where are these jars made, and what do they cost?

*May 3d.*—Of course the tin cases and separators are the principle expense in commencing with your section boxes. Yet I understand that the tin cases and separators can be used for several years.

I consider your section boxes and tin cases, etc., a grand success, with or without comb foundations. I will try comb foundations and natural comb. I would suggest two kinds of boxes, one for comb foundations, and one for natural comb. The upright pieces of the box designed for natural comb, can be made *solid* 1⅞ inches wide, the top and bottom pieces same as now, and the whole put together with tongues and grooves, same as present box, with less tongues in upright pieces. This would make a stronger box with no cracks for bees to fill.

JOHN ANSLEY.

The same point comes up here, that we have in the hoop hive. If we make the section boxes with the side pieces whole, we have got to bring in a new piece; new machinery will be needed for its manufacture and additional chances of error are incurred. As it is now, we have only to learn to make one piece, and when we can make that one piece just right, the whole box is exact, and we can with little expense or risk, arrange to make these simple pieces with great rapidity, and at a very insignificant cost. We think the space left for the comb foundation will occasion no inconvenience, but a test will soon determine. The tin cases of course are to used over and over again, and the wood frame is all that is to be sold with the honey.

Why not make the foundations of combs intended exclusively for the reception of honey, with cells a little larger than drone cells? Would not the bees complete them, and fill them with honey? In consequence of the size, would not the queen be entirely precluded from depositing eggs in them? Who will try the experiment and report?

If our friend Otis Fuller (see page 99) will rub she dependant edges of the comb guides in the Barker & Dicer sectional honey boxes, thoroughly with a solid lump of clean beeswax, his bees will all "fall into line" and obey orders promptly; *i. e.* if his bees are as well trained as mine are. Of course this must be done with so much care as not to smear wax on any other portion of the box. The least speck of wax in the top of a clean box or hive will be taken by the bees as an invitation to commence comb building at that place. A well defined line of beeswax on a *dependant edge,* is as certain a guide, as is a piece of well formed comb. G. E. CORBIN.

St. Johns, Mich., May 5th, 1876.

## OUR OWN APIARY.

ON page 133 Vol III, friend Townley gave directions for out door wintering, and insisted that we should prepare just one hive in that manner. Just to make the experiment we did so, and fixed them up just as nearly as he directed as we knew how. The success of that hive is fast turning our head, and we are now looking about to see who can furnish us with a ton or two of chaff at the lowest rates. If you don't like to hear us go wild on some new hobby or other every little while, you should not subscribe to GLEANINGS. We will try and be truthful even if we do get excited.

It is now May 9th, and the bees in the house apiary are going so rapidly that we fear none will be left. Those outside are most of them building up, but a few of the weakest are yet going down with the well known spring dwindling. Now this Quinby hive that has the chaff over it, is as we have before said considerably the best colony in the apiary; they are out first in the morning, and fly when it is cold and rainy, and so far as we can see, have not lost a bee; to tell the truth they are so covered up that we could not open and overhaul them if we would, and perhaps that is one secret of their prosperity. Day before yesterday, while walking near the hive a bit of chaff flew out of the entrance as if impelled by a draft of wind. "halloo! said we, have you really become so strong as to send out a current of air for ventilation?" and we approached and held the back of our hand before the entrance. Sure enough there was a steady, strong blast, and what astonished us more, was to find it so warm that it seemed almost as if it must come from an oven.

We at once proceeded to our other hives and not a breath of air could be perceived coming from the entrance of even the strongest. We went back to the Q. hive and pushed our hand down in the chaff, and long before it reached the bees, the warmth was very apparent; as we touched the cloth that covered the combs we made the remark that we must have touched the cluster the first time, but as we slid it to the other end of the hive and then over and around the sides, we were obliged to admit that the cluster either filled 8 of the large Q. frames, or that the chaff had the astonishing property of so confining the heat that the whole hive was warmed up to a temperature that reminded one of handling a setting hen. Perhaps it were well to state here just how this hive was prepared last fall. The hive is wide enough inside to hold 16 frames side by side, and the side boards are tall enough to hold 16 more set on top of the lower ones. Well, the directions Mr.Q. sent with the hive, were to remove all but 8 of the frames for winter, and to turn these 8 frames at right angles from their usual position so that when set in the middle of the hive, there would be a space of about 4 inches left on all sides for the chaff etc. and over the top of the frames a space of nearly a foot. Now if a Quinby hive prepared in this way will always winter like this one, why has the plan been abandoned? We once wrote in regard to the matter to Mr. Elwood we think, and if we are correct his reply was that the plan did not succeed so well generally as wintering in the cellar. At all events, in Mr. Q's neighborhood the plan of out-door packing seems to have been pretty generally abandoned in favor of cellar wintering notwithstanding that the hive used (Q.) is most excellently adapted to being packed. Now we cannot help wondering *why* they failed. If it were possible to have 100 stocks in the condition this one is, by the 1st of May, bee-keeping would be perfectly "splendid" as the little girls say; and such colonies would be cheap even if it cost $10.00 to put them in the necessary condition in the fall. If our friend Townley can and does winter a whole apiary in this way every time, why have others failed? it is true our friend Butler *did* insist that we were stubborn in the matter, and perhaps we had better own up that we were and beg his pardon, for he certainly has been quite successful. For the benefit of those who did not have Vol. III, we will say that in obedience to friend Townley's *commands* we, after turning the frames around as mentioned, covered them with a common grain bag cut up, expressly to have every thing just as he said, and then poured in and packed all around the bees about 5 bushels of oat chaff. Of course we made a passage to the entrance by laying a shingle over a couple of ½ inch sticks as mentioned on page 49. To get at the truth of this matter we are going to waste some time and —chaff. In fact we have already taken one of the weak colonies that was likely to die, stood the L. frames on end, slipped a grain bag over all, put on an upper story and filled both with chaff. They haven't got "hot" yet, but perhaps it needs more than a ½ pint of bees for such an experiment. The hive we have been talking about is the swarm that came from the suspended hive July24th, last year, and as we tried again to get them to fill the Quinby boxes, and they would not, they had every comb full of stores. We let them have it all, thinking we would try for once the consequences of too much food, if such a thing were possible. We are now going to have for our next hobby, hives crammed full of stores and no tinkering during cool, or cold weather; no dividing until natural swarming commences, and if honey is the object perhaps no dividing or swarming at all if it can be avoided. No extracting until the combs below are filled to their utmost, and no extracting under any circumstances that may render it neccessary to feed the same back again. Of all the blunders in bee-culture we feel there are few greater than fussing to get the honey out of the combs where it is nicely sealed up, and then fussing at still greater lengths to get it back in the same combs and sealed up in the same way *if we can.* "And give up feeding?" At present we *would* give up feeding, at least where one has as much to do as we have. Why, just think of it! the best colony in our apiary has not had one minute's time expended on it for the past six months. At that rate, one person could take charge of 1000 hives until the time for surplus honey came, and should there be none, he might do it the year round, for all that would then be required would be to see that each one had a good queen, and the bees would do the rest. At the rate at which good colonies of bees sell, he could do a thriving business selling them if he didn't get an ounce of honey, and should a great yield of honey come, he ought to be able to hire help at a price that would pay for the taking care of it, if he were not burdened with too many "new inventions". Now all these bright visions could be realized without trouble, if every colony as well supplied as was the one from which we are taking this text, would only thrive in the same way.

The Standard hive wintered beautifully, winter before last, because it contained two good colonies; but during the past winter a fair colony went down to about a pint, and the rest of our apiary has gone down in the same way more or less during the month of April, or as soon as they commenced to raise brood briskly. Is it possible that this spring dwindling has all been caused by allowing the juvenile bees to get sore throats, etc., on account of the brisk draft that our modern hives allow when they are of just the age to want to be tucked up? Keeping them warm with a tight board box has been no better, for a tight board box would be small comfort to one of us on a frosty night; but plenty of warm, *porous* bed clothing would enable even an infant to keep comfortable. Corn fodder and straw put around hives and over them might keep the wind off, but they assuredly could not confine the animal heat in any such manner as the soft dry oat chaff that was only separated from the bees *on all sides* by a thin piece of cloth. Again, a packing of straw, or a straw mat over a strong colony of bees may be a very good thing, but can it amount to very much when there are innumerable cracks all around where the warm air can creep out, and when the sides are only cold hard boards after all? How would you like to sleep in a bed made in that way? Would not the children begin to dwindle out in just about the way the bees do? Another thing, we don't cover our children with a board, nor an oil cloth, nor paper, nor canvas, but we have wool and flannel; as the bees seem peculiarly sensitive to accumulations of dampness we are inclined to think that even these would be apt to get damp and mouldy. In fact we have had some such experience, but the soft chaff we think is going to fully meet the requirements. Is it not possible that our fathers knew what was best when they decided on the old straw hive? Now before going any farther we are going to try and make some experiments during this cool May weather. If standing the L. frames on end, covering them with cloth and then chaff on all sides and above, will get them into something near the condition of the Quinby hive, why we shall know a little better what to do next winter. Several weak colonies have starved because it was too cool for them to crawl up to a feeder containing syrup, while this Q. hive has bees all day and all night walking around on the bare ground in front of the entrance which is kept warm by this blast of warm air that is constantly passing out of one of the entrances, while a stream of cold air goes in at the other.

Several years ago we had a very weak nucleus in the fall, and as they were out of stores —they were in the American hive—we gave them one frame moderately filled with stores. To get this frame into the A. hive we were obliged to stand it on end, and as this looked like rather a cold and "loose" arrangement, we packed some very fine, soft hay all around and over the top. As there was but the one hive, we did it well and carefully, and so closely was the hay or grass packed, not a bee found a chance to get out during the whole four months. Well, we supposed this frame of stores would last them only a month or so, and to determine when they would need more food we tapped on the hive occasionally, they were in the cellar, to see if they responded promptly. Well, they answered every time until the next April, and when they were put out they were all alive and had nearly all of their frame of honey left. As this was our first experiment with in-door wintering we were jubilant over it, and the next winter put all our colonies in the cellar—omitting the hay; of course, *that* could not be important, and it may be a good place right here to apologise to those whom we have ridiculed for packing their bees and putting them in the cellar besides—and when they died with the dysentery worse than ever before, it did not occur to us *then* that the hay had anything to do with the matter. If after all these years, our unlucky nose has at last by accident been turned in the right direction, we shall be very thankful.

*May 18th.*—We are happy to say the aspect of affairs in the apiary has much improved during the last 10 days. After the dwindling had reduced us down to 52 colonies the weather changed, and even colonies with only a half teacupful of bees began to build up. The house apiary too has caught the inspiration—caused by new honey, plenty of new pollen and soft balmy air as nearly as we can determine—and now, bee-culture seems the very easiest thing in the world. About that idea of feeding: there was very little danger of our falling into the other extreme as friend Doolittle apprehended, for with all our sugar, honey and candy, we were unable to feed the bees in the unlucky house apiary, for the simple reason that they would not take it; or at least enough to do any good. They wanted out door air and sunshine, just as we do this minute; and although heaps of letters from many inquiring friends debar *us* from the luxury, we are determined our bees shall henceforth be tormented no more with any such privations. About a week ago, we got an idea in our head that perhaps those weak colonies would build up faster if they were put into a little hive that they would fill, or in fact one that would crowd them out a little except during cool nights. With the section frames we did this very readily, and sure enough, the bees went right to work and gathered pollen, reared brood, and we began to have visions of a hive entirely of section boxes piled up like bricks. As the colony increased, more boxes were to be added, and when any were filled that were suitable for table use they were to be used as surplus, and so on. The labor of handling these little frames would be much like the closed end Quinby. The little hive worked very well until the novelty of it wore off, and then we began to discover that we could look over several large colonies with metal cornered frames, in the time we were handling the ½ dozen closed end section frames.

As the bees were crowding out of the Q. hive we to-day removed the chaff covering. The colony is a mammoth one for the season, and we found solid sheets of sealed brood in nearly every one of the 8 large Q. frames. The chaff protected them so well, that they seem to have been entirely free from the dwindling that has affected nearly every other colony; of course having such an abundance of bees and stores in the fall, had much to do with it as well as the chaff. To get at the real virtues of this chaff idea, we are making some experiments now, that we hope will tell us before another winter, just how much to expect from it. If we can keep the whole interior of the hive warm, even in June, during cold storms and cool nights by some such porous covering, we think it would be quite an item; perhaps it may like many other things, turn out when well tested, to be an accidental success after all; but we wish to *know* just what it does.

Last year we did not clip our queens' wings, but with the prospect now before us—several colonies are strong enough to swarm—we have concluded to have all clipped. Now in regard to closed end frames; we found the queens, moved the division boards, and had the hives all closed up where there were suspended frames, in an amount of time that seems insignificant compared to that required to perform the same operations with a closed end Q. frame; and the statement made by a few, that such hives could be handled as rapidly as the suspended frames, seems to us positively *awful*. With a small colony, and a new hive, either closed top or closed end frames may be handled very well, but with an old hive so full of bees that they cover the end bars of the frames to such an extent as to prevent your seeing the wood at all, and frames so heavy as to make your back ache, while you stoop in the hot sun and look, first at one end, and then at the other, to see if you are killing bees, and these hybrids, and—if you think we don't know how, try one such hive yourself, or visit some one who *knows* how, if such there be. A careless person might not be aware that he killed bees at all, and some do not seem to care, but to us, the sight of the quivering form of a crushed and mangled little fellow when he is innocently standing in the threshold of his own door or peering out at the blue sky, while the closed ends are being brought up into place, is enough to spoil the pleasure of bee-keeping.

In clipping our queens we thought to test friend D's. theory, and as we went at the work about 9 A. M. she should have been in the centre of the brood nest, but nearly every queen was found on the outside comb. The reason we suppose to be that the combs were so filled with the fruit blossom honey that no cells were to be found, unless she went to the extreme outside combs; and that the morning being so very warm, she had no particular need of seeking the centre. Is it not rather when the temperature will permit, and when no empty cells are to be found, that she goes over to the outside?

We are fast becoming sceptical in regard to the utility of many of the modern teachings, not so bad as friend Heddon however, but in the matter of spreading the brood combs, we think there is room for grave doubts.

# GLEANINGS IN BEE CULTURE.

**Published Monthly,**

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

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*For Club Rates see Last Page.*

## MEDINA, JUNE 1, 1876.

THE grass withereth, the flower fadeth; but the word of our God shall stand forever.—Isaiah 40 : 8.

WE have made the plates and tried foundations ½ larger than drone comb. It evidently puzzled the bees for they tried to follow the angles and yet make worker comb, resulting in worker comb with 3 cornered vacancies which they filled with wa——paraffine.

WHO will furnish Walter Wade, Pettit, Tippecanoe Co., Ind., with Vol. III? Says he *must* have it; if any more are to be had it would pay to advertise them, for our supply is exhausted, and there are quite a number of applicants. If you have the volume and will sell it, please tell us your price.

D. A. JONES, Beeton, Ontario, Canada, we suppose is prepared to furnish any quantity of foundations, for we have just sent him a machine complete that did excellent work while in our hands. We made about 50 lbs. and filled most of our orders during the two days were experimenting with it. We hope to be able to give you the white for 75c. Our new machine will be at work June 1st.

FROM remarks from some of our friends in regard to heavy extractors, we fear they have been so thoughtless as to try to work them without their being screwed fast to the box or platform on which they are to stand. As we send them screwed fast to the crating, we supposed the sight of the screws would suggest that part of it. To purchase heavy machines just to have them stand still of their own accord, would be the heigth of—— beg pardon, misdirected zeal.

WE have been enabled to reduce the price of our compound microscopes to $3.00, or $3.15 by mail. These instruments are marvels of beautiful workmanship, from the mounting of the lenses to the mahogany boxes in which they are encased, and the samples of objects such as eye, foot, sting, wing, tongue and mandibles of the bee, are so much superior to any drawings of the same, that we feel as if we could not praise them too much to any one who is fond of exploring the wonders of the honey bee.

Did you ever! Last season we thought if we sold one extractor a day we were doing pretty well, but yesterday we sent off 12. And as they were mostly from those who have bought of us before, we shall have to conclude the business is not overdone after all. The way our boys—and girls—are learning to make the boxes of tin come into shape, with the aid of improved machinery, is soothing to the feelings of one who takes all the responsibility of having the machines despatched quickly, after the money comes for them.

WE are much pleased to note that at the Maury Co. (Tenn.) Bee-keepers' Association, they not only went out into the apiary, but opened hives, performed the different operations requsite about the apiary, and finished by transferring a colony from box hive to movable frame. Is not this a move in the right direction? How does it compare with associations where they—— "steady Ed'ard!" as Captain Cuttle used to say; we rather *think* the idea we were trying to get at was that an adjournment to the open air *en masse*, would many times be a profitable move for bee-keepers conventions in general.

THEY have as yet no Italian bees in Australia, the third shipment having proved a failure. Our friend Carroll thinks want of ventilation and want of water the trouble, but those who have been most successful in importing from Italy, think Mr. Carroll wrong in his ideas as to how they should be prepared. We sincerely hope some one will try his hand at it, who will make it a success; and as Mr. C. proposes to pay for the bees all the same, whether they are lost or not, there can be little risk in trying the experiment. For particulars address J. Carroll, Bee-master, Mohawk Valley, Enoggera, Queensland, Australia. Postage on letter, 12 cents.

WE are pained to learn of the death of another of our number. J. R. Gardner, Christiansburg, Va., who has long been known to most of our readers, has been suddenly taken away. But a few days before his death, he wrote with his usual enthusiasm in regard to bee matters, the new comb machinery, etc. We are busy and careless to-day, but who knows what the morrow may bring forth? Our friend has left only pleasant memories; about 4 years ago, he made comb foundations quite successfully with plaster casts, and we had considerable correspondence with him in regard to the matter.

SINCE the matter has been stirred up, it seems that almost as many have used the tin separators, as have used house apiaries. Dr. A. V. Conklin, Delaware, O., used them more than 10 years ago to make the bees build their combs true in the section frames he used on his Diamond hive. The frames were suspended, and to prevent the bees from refusing to go into a new set of boxes, as they often do, he wished to remove the sections one at a time, or as fast as each was full. As the new one was put between others having bees at work on them, they could not well help being filled speedily. The same idea can be applied to our section boxes, and where no guide combs are at hand we can take a few sections from a hive that has already started them, and give to one that seems averse to commencing. Few colonies will refuse to work in the boxes if they can have one or two that are already started, for a sample.

The tins the doctor used were as wide as they could be, and allow room for the bees to pass above and below them. Says he used them enough to get about 500 lbs. in these little frames.

* * *

Will you please tell me in whose care you have your extractor at the Centennial and what you have to pay to keep it clean? I sent one and I have received a bill from Dryer, Simmons and Co. for $5.00 for unpacking and putting in position, and they want $25.00 more to keep the dust cleaned off during the Exhibition which I think is spreading it on "pretty thick".

R. R. MURPHY. Garden Plain, Ill. May 22nd 1876.

[Space was secured and our Hive and Ext'r were ready to ship in due season, but we were told to wait until shipping labels were sent. They have not been rec'd: by the way as they are adopting new schemes daily in the way of "terminal charges," "storage for crating," etc., we begin to think people who *work* for their money might be out of place there. The charges in your case friend M., seem almost wholesale swindling; will the Centennial folks explain. We cannot wonder that visitors report only one bee-hive, and that a foreign one.]

WE have frequently, of late, lamented that there was no text book, or indeed, book of any kind that gave a concise view of bee-culture that was at all up to the present date, and when we sent out such text books as were to be had, it was with a feeling that we were doing our customers an injury, almost, to give them something, a great part of which must be unlearned almost as soon as learned. Prof. Cook, of the Mich. Ag. College, has now given us a text book, fully up to the present date, and a book, almost the only fault of which, is its brevity. The skill with which our friend has touched upon everything of importance, and yet avoided being drawn into indorsing too warmly the various new inventions and developments, is—— is just like Prof. Cook; for we very much doubt if we have at present another writer who could do it so well. Dear readers and brother novices, we take pleasure in handing you a manual that you can refer to in all emergencies, and that will perhaps be a much safer guide than anything similar we could furnish. We presume some will complain that the details are not more minute in some respects, but this is unavoidable in so small a work. Price 30c. postpaid. Send us the money and see how quickly we will put the book into your hands. We are well supplied.

## Humbugs and Swindles

### Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

FRIEND NOVICE:—Let me warn your readers against shipping honey to the house of John K. McAltister & Co., Chicago, Ills. They won't do the clean thing. In fact, won't do *anything* towards paying for honey sent them; at least such is the manner in which they treated me. About three months ago, they wrote me, if my honey was pure they would give me 11 cts. for it, delivered in Chicago. I accepted their offer and shipped them a barrel weighing here, net 41¼ lbs. Upon receipt of it there, they wrote me that there was but 31¼ lbs instead of 41¼ as marked on the barrel. Also that they could buy such honey as mine for 10 cents per pound. I wrote back to them that I had made no mistake in weighing the honey, but if 100 lbs. had leaked out on the way, of course I did not want them to pay for it, and to send me the money for 31¼ lbs. at 11 cents. I heard no more from them for several weeks, I then wrote to a friend of mine in Chicago, to see them for me, and gave him an order on them for the money. He went to see them, after which they wrote me that men to whom they had sold some of the honey, had pronounced it not bees' honey; that they would have it analyzed in a few days and if it proved to be pure honey would pay me 9 cents for it less freight. I suppose they haven't analyzed it yet; as I have heard nothing more from them. I count it lost. If I ever get anything for it I will be surprised. Don't you think this belongs in "Humbug and Swindle" column? Beware of the house and ship them no honey, is my advice.

Before closing would like to ask if you ever heard of a hive called "Gould's Common Sense Beehive." A man by the name of G. W. C. Gillespie, purporting to be a partner of Gould, has been through our County, black-mailing bee-keepers, saying his hive was the only 2 story hive ever patented and demanding royalty from those he found using a 2 story hive; threatening to prosecute if they did not pay him. I am sorry to learn that several did pay him. He came to my house last Monday and demanded the same of me, which of course I refused, and he threatened to have me summoned before the United States Court at Nashville. He had his letters patent with him, but when asked to show me where they covered two story hives he could not explain. He said he had been all over the state of Ohio, and collected it from all he saw using two story hives. I asked him if he had ever been to Medina and collected it of you. He said he went to see you three years ago and you were not using a two story hive then. What do you think of him? And do you know any thing about him? Tell your readers to beware of him. Poplars were in full bloom but no honey on account of so much rain.

J. F. MONTGOMERY.

Lincoln Tenn. May 10th. 1786

## THAT AWFUL "DWINDLING."

BY JAMES BOLIN.

FRIEND NOVICE:—I think I shall have to admit there is such a thing as a bee disease, after all, for a great many bees have died in this section the past winter and of course they would not die unless *something* was the matter with them. And then, calling it a disease lets us careless ones down so easily. It is contagious, too, as the bees seem to catch it of their owners, for in nearly every instance where bees were lost, their owner had been affected with what a noted humorist called "*constitutional weakness*" the preceding fall. Of course it will not do to impute the loss to carelessness or negligence on the part of the owner, for bee men, you know, are never guilty of anything of the kind (?) It is true the bees were out of honey, but that was their own lookout, they might have gathered more last summer; and besides, they didn't starve; it was that dread bee disease that killed them. Some of my bees had it last winter; five colonies died with it while they were in the house, and some 8 or 10 after they were put on the summer stands. Some of those that died after they were put out had plenty of honey, but that constitutional weakness, or the cold, prevented their reaching it, so they sta——I mean they died of that dread disease.

Dwindling? Yes, they had spring dwindling, too, that is, some of 'em did, while others didn't dwindle worth a cent. In fact all the dwindling some of them did was up, so that they have the entire ten frames chock full of brood, and have queen cells nearly sealed over, preparatory to swarming.

Dwindling down must be a disease, I think, and there is something a little singular connected with my bees that were affected with it. All, or nearly all, that had it were either those that were several feet above the floor, while they were in the house, or else were left on the summer stand during the cold weather we had in March. Of course neither having them near the top of the room, where the heat arising from 145 stocks, in connection with our warm winter, rendering them uncomfortably warm, causing a great many bees to leave their hives and becoming lost, or leaving them out on the summer stands during the severe cold, chilling their brood and preventing their rearing young bees to take the place of those that died, had anything to do with the dwindling. Surely not. It must have been a disease, or a dispensation of Providence, that caused them to act so. Those that were near the floor during the winter, and in the house during the cold weather in March were not much, if any, affected by the *disease*, or *dispensation*. It just missed 'em, that's all.

There, now, don't that sound better than to say I was negligent last fall, and did not feed them when I knew some of them were short of stores? And is it not easier to call dwindling a disease, than it is to carry a number of heavy stocks into the house out of the cold?

O let us say a disease, or dispensation, was the cause of the trouble, by all means, and perhaps we can make folks believe us, and not think we were careless, negligent or lazy. JAS. BOLIN.

P. S.—Perhaps you will wonder why I did not put my bees all in the house during the cold weather in March. Well, the trouble was, there were so many of them that when they were all in they made it so warm they became restless at once; with only about half of them in they remained perfectly quiet, consequently I had to leave part of them out. Those that were in the house are my strong stocks to-day, and although I doubled up a number of those that were out of doors in March, in order to get them strong for box honey, none of them are anywhere near as strong as those single swarms that were in the house. I have a place enclosed; grape vines planted for shade, and intend to divide my bees and start another apiary this summer. I expect to build a house there, with cellar under it, and thus be prepared for such winters as the last one. I had too much to do last fall to attend to feeding when I ought to have done so; but hereafter, I think I shall let the other work *slide* and attend to the bees. If you ever hear of my letting so many starve again, just call me careless. I fear your apiary house will be too cold in very cold winters.

JAMES BOLIN, West Lodi, O., May 18th, '76.

## DON'T MIX YOUR HONEY.

WE have all wintered, here in Cincinnati, with our usual success. I brought my 26 colonies through without a single loss, altogether on sugar syrup, and much of it unsealed. I am suffering now on account of some of my queens playing out; having kept some old ones I should have replaced last year, but the season was so bad I found it more trouble than I could give. Some of our hives are quite full of fruit blossom honey, and the black locust is just coming out, with every prospect of plenty of clover; taking it all together we have the best prospects for a large yield I have ever seen. And now while on the subject of fruit blossom honey, allow me to make a suggestion: keep your different honeys separate. Year before last I took 3000 lbs.; one-third of this was from fruit trees and the balance from white clover. None of the latter sold for less than 25c and more than half I got 30 for, but we will suppose it netted the lowest figure, that is $500,00 for 200 lbs. The dark, bad flavored fruit blossom honey, I was glad to get anything for; at last I sold 400 lbs. for 10c per lb. and closed it out. A druggist bought it to make mead of, a very popular beverage here in summer. Now if I had mixed all up together, with the idea that the good would sell the poor, I don't think I would have got 15 cts. for it all round. I found no trouble keeping the different kinds separate. I have two extractors, and by the time white clover comes in the other is capped over, so by taking it out before the clover honey is capped, I throw that out first. I thus uncap and throw out the dark honey in the other machine. I could manage with one machine but having the two saves time, which is very valuable just now.

I am led to make these few remarks because I know how hard it is to buy a really first-class article; not one sample in ten, yes I might say twenty, is what I call first-rate A, 1, white clover.

H. E. CURRY, Cincinnati, O., May 19th, '76.

## Heads of Grain.

### From Different Fields.

THIS week I find many of the drone combs in the section boxes filled with eggs but not a single egg in the worker combs, though some of them have pollen in them. Found pollen yesterday in two drone cells in section box. The section frame sides are 1¾ inches wide. It appears to make no difference about the queen's laying in them whether the boxes rest on the frames in brood chamber or ¼ inch above. There is very little drone comb in brood chamber. C. R. CARLIN.

Quincy, Fla., May 19th, 1876.

Our new machine makes foundations just the size of that furnished by John Long, viz., rather large worker comb. This seems best if we are to have but one kind for both brood and boxes.

I have made a successful start in bee-keeping; I followed the Journal's directions. I had two swarms in old box hives in the spring, and bought one. I then had 8 swarms and have sold about 160 lbs. of honey. I took 80 lbs. from one stock. B. F. Clordy.

Rolling Home, Mo., Dec. 25th, '75.

MR. EDITOR:—I think I can answer or solve problem No. 1, in Vol. IV, May No. I have invented a candy slab for feeding bees without a particle of waste. It is simply straight A sugar, made into slabs or cakes about ¾ inches thick, 6 wide, and 14 long, or in fact just the size most convenient. Now for the process, (no charge for the patent), procure an empty envelope box or something similar, take soft standard A sugar, (it should be moist) place a layer in the box, pressing it down firmly and evenly; put a sheet of paper on top of this layer, and proceed as before, making four layers to each box. Leave lid off and set it away in a dry place for 24 hours, (less layers will dry sooner), when you will find it ready to remove, and just the thing to place in your hives. S. Beard.

Polo, Ills., May 3d, 1876.

If I remember right, you said something about getting comb foundations in quantity, a little cheaper than $1.00 per lb.; if so, for what amount can I get 200 pounds? I have tried it, and am willing to risk that quantity. We have 80 colonies of bees in tolerably good condition. We run our cars out on the 4th and 26th; the bees had a good fly both days. We got only 2300 lbs. of honey this year, and dark colored at that; but it all sold at 17 cts., or nearly that, per lb. P. W. McFatridge.

Carthage, Ind., Dec. 27th, 1875.

I commenced this spring with three colonies. I wish to increase as much as possible and take no honey from them this season. How much can I increase them safely? I would also like to know whether a handful of bees placed in a hive with the small larvæ you advertise to send by mail, will raise a queen and build up a strong colony.

Andrew Martin, Campbell, Ionia Co., Mich.

We could as easily tell you how many bushels of corn you could raise on an acre, as how many colonies you could build up from the three. Make as many as you can, but be sure that every one of them has at least six combs covered with bees, and filled with brood and honey by the first of September. A neighbor had two last spring—increased them to seven, and now has but three; had he been satisfied with four or perhaps five, he might have had them all now, and have saved himself much needless fussing with the weak ones before they died. The larvæ should have at least a pint of bees, and as soon as they have their queen cells capped over, they should have a frame or two of hatching brood. If they have been started as early as June or July, they may build up without further help by fall; but if later, they must have still more help to stand even a fair chance.

On page 103, A. W. Lueck says the temperature in his bee cellar was constantly between 33° and 40° F., and adds, "In consequence of this low temperature, our bees did not breed before we put them on their summer stands, *otherwise they did very well.*" (The italics are mine.) "*Otherwise they*" *would not have done as well as they did*; if Mr. L. will allow me to finish the sentence.

According to my observations the bees that breed most in the cellar, are most likely to get uneasy, and become diseased. To winter best in the cellar I would have moderately strong colonies, would have hive and combs entirely dry, and would keep them so cool (from 33° to 40° F.) that they will not breed in the cellar.

Excessivly large colonies keep so warm as to remain active get uneasy, and hence become diseased and partially or entirely depopulated.

On page 106, the editor says, "Details of numerous experiments heretofore made, indicate plainly, we think that the royal jelly has no more effect on the young queen, than has the milk that is given an infant, on *its* development." If this be true, by what process does a queenless colony of bees produce perfect queens from "worker brood" (larvæ)? I am very anxious for an answer to this question for I certainly do not comprehend your position.

G. E. Corbin, St. John, Mich.

Well friend C., it may be we are in error but our idea is that a worker larvæ becomes a queen by having royal jelly continuously, and in unstinted quantities, and nothing else; besides having the cell enlarged that it may contain this food until she literally swims in it, while the "poor worker" is allowed the concentrated food only while it is a mere speck of an infant, and as soon as it is a day or two old is boarded in a more economical way on a mixture of pollen and honey until ready to seal up. The drones are also made to subsist on the raw food like common folks if we are not mistaken, after they are once well started. If our education is at fault, there are plenty in our family of readers that know—at least they know of all the learned things that have been said on the subject any way.

You ask if I mean to say that bees stand out-door wintering down here in Maine. I have not tried to winter in single walled hives out-doors without some protection, but most of the bee-keepers of this section do, and the majority of the bees live through it. I can not say whether Italians would live with such treatment. Henry A. Sprague.

Charlotte, Me., Jan. 15th, '76.

Allow me to suggest my mode of making quilts, which I find much better and more economical than the old style. I use soft "woolen bats" instead of cotton, wool being a better non-conductor of heat, and a better conductor of moisture than cotton; cover with *light* muslin, then tack on *one* side a piece of *heavy*, which can be removed when gummed over, and another piece of heavy muslin tacked on, making them good as new at a trifling expense.

In regard to *frames*. After two season's trial I find my frames made from *one* piece 3-16 thick, cut *nearly* thro' at the corners, the top two thicknesses tacked together, with the *upper* metal corners, all that could possibly be desired, being very light and *strong*.

O. L. Ballard, Malone, N. Y. May 8, '76

My bees have wintered well. I had them in a clamp. I have 43 stocks. I see McMaster, of Mo., states his bees gathered first natural pollen 11th of Feb., mine gathered the first on the 20th of April. He stated to me, his bees gathered but little honey from basswood, while here it is the main dependence for surplus, showing the contrast in localities. Spanish Needle was a new thing to me, but to tell it as it is, it is what is called in York State pitch-fork; when ripe get near it and you will know it. I get my surplus in small frames on top of hives (your sections are new to me). The grocerymen like the small frame and it suits the majority. M. S. Snow, Ono, Wis., May 3d, '76.

We have no bee pasture here for three or four weeks after the linden harvest, say from July 10th, to Aug. 1st. What can I plant to have pasture for them? What time should I sow rape, buckwheat or mustard? and what kind of mustard?

When in Cincinnati a few years ago, I saw some weather strips with rubber edges about one-half inch wide. The edges were cut with a saw and the rubber strips glued in. Would not that rubber be the very thing to put around the edges of our division boards? if so, where is it to be had, and what is the cost per linear foot? They would *close up tight* around the edges, adjust themselves to any irregularity of shape, and would be movable.

I sold all my honey long ago. I put it up in stone jars of from one to six gallons, and sold it to consumers direct. I wish I had a ton more. I tried a dozen glass jars (Mason's) and 10 per cent commission, but concluded I could sell it just as well myself.

J. I. Kiser, Adelphi, Iowa, Jan. 17th, 1876.

All the seeds mentioned may be sown almost any time during July to give a yield of honey in Sept. If your yield fails in August, perhaps it would be well to sow during the last of June. Although we have on hand a quantity of Chinese mustard seed that we imported at a considerable expense, and would be glad to sell, we must say that in our locality, the common mustard that grows quite plentifully without cultivation, seems to attract more bees, and keeps longer in bloom than the Chinese. If you can raise a crop of any of these, in such a way as to make it pay cost aside from the honey crop, we advise you to go ahead; but if you rely on the honey alone as paying crop, we fear you *may* be disappointed. Very likely the rubber might be made to answer a good purpose, but the folded tin answers so well as we have it, besides preventing warping, that we rather think we should prefer it.

Allow me to enquire how late in the season you use quilts? or do you take them off and use honey boards during warm weather, or when boxes are used?

C. Butman, Plymouth, Maine, May 2d, '76.

We use quilts the year round *of course;* they are used in summer to keep the bees from building combs or attaching propolis to the cover, and that we may close the hive quickly without any danger of killing bees, as we are almost sure to do with a honey board. When we put on boxes of any kind, we place the quilt over them so as to close all the upper openings.

*Sir:*—I am in want of a good honey slinger, I never saw but two; one was from ——— ——I liked it very much. The other I bought of a pedler. It is a square tin box, and when I put it in motion you may guess how the square thing goes warppety jerk, teaching that a square thing was never made to turn round. Old comb it jerked the honey out of like chaff, but with new comb, it took honey, comb and all; I finished with it a monument that I have built against the fence, out of worthless patent bee hives.

Please send the price of one of your extractors all ready for work and warranted to please or money to be returned; for I have finished my monument of patents. Samuel J. Pease, Bluff City, Illinois.

Most certainly, we will take back any extractor or anything else that does not suit. But if anything is wrong you had better state the matter before going to the expense of reshipping. By all means consider the monument completed, and let it stand as a warning against future extravagances. Our own almost reaches the top of an 8 foot fence, and we are now diligently feeding the kitchen stove with it, while we make resolves to be very careful about wasting any more time, labor, money, lumber, tin, etc., in building any more such monuments.

I have a friend—an old bee-keeper—who has usually succeeded very well with his bees. Last winter he housed 25 hives in good condition; they wintered well, but when he put them out in the spring, about one-half of them left their hives On the 12th of the present month it was so warm that he was obliged to put his bees out again and one swarm took leave of absence in the same way. I have examined the hive, the comb is white and clean, with plenty of pollen and honey, and everything appears to be all right to make a good strong colony happy. Now will you give us some information as to the cause of their leaving? And also what can we do to prevent it? I am a new beginner, last season being my first. I have my bees out for the second time this winter, and I think they will now stay out. One of them came near suffocating before I put them out, but they are all right now.

J. G. Sanborn, Detroit, Mich., Feb. 14th, '76.

As we have said before, we can only consider this one of the features of the new wintering, or springing malady; and if any one can give us a remedy that has not been already tried unsuccessfully, we would be very much obliged indeed.

I put 56 stocks of bees in cellar Nov. 27th, and on April 7th, took out 52. Three seemed to have starved, and one may have been queenless. My 52 are all alive at this time. I have succeeded better than usual, and better than some of my neighbors who complain that their bees consumed a large amount of honey and then starved—supposed cause—the warm winter.

L. Beckwith, Berlin, Wis., Apr. 22d, '76.

I had 56 colonies when winter commenced. I put 20 in a bee house built for that purpose, leaving 36 on summer stands to try wintering without any shelter to protect them. Ten of the 20 I put in the bee house died from various causes. Three had lost their queens. Two of them had, what I call a dysentery—daubed up and chilled to death, one smothered, three in what are called "Common Sense hives" died. I can't winter bees in such a hive, in-doors or out. It does for summer, but is good for nothing for wintering, as far as my experience goes. One got robbed after I set it out, which makes the ten lost. The 36 left on summer stands have come out all right so far, strong and hearty. I claim the kind of hive has something to do with wintering well and coming out strong. What say you Mr. Editor? My hives are all double; having two thicknesses, with a top over all, roof fashion. They will stand out any where and need no covering. I had one colony in the "Farmer's Friend" so called, that died also. Lyman Legg.

Rose, N. Y., May 1st, 1876.

The qualities that fit a hive for wintering bees, we think may be given to almost any hive or box, and also that almost any hive or box may be so arranged as to have the bees die in them. It may be necessary to bore holes in some of them, and it *may* be a good idea to surround them with chaff, but we certainly do not need to buy a right for so doing, nor is it necessary to give them a high sounding name.

### ITALIANIZING.

In Italianizing how would it do to put queen cell in a cage in the black hive and as soon as she is hatched, remove the black queen and liberate young one in 24 hours? If practicable the hive would be without a laying queen only about a week.

In 1870, we made some very lengthy experiments in caging queen cells, and gave plan in *A. B. J.*; since then the idea has been taken up and dropped by many different ones, and one or two have offered queen cell protectors; but we believe the result has been that although we may succeed now and then, it can not be considered a success. Instead of having the hive without a laying queen for a week, we may manage to have the period not exceed two days, or by a little different management have the young queen depositing eggs at the time the old one is taken away. The cages we used were made by pushing a cup, made of wire cloth with the ends raveled out, over the queen cells; but as we found the bees would eat through the comb to get at them, we put a similar cup on the opposite side, the points of the wires passing each other just a little. The queen that hatched first was allowed liberty, and as soon as she commenced to lay, was removed and the next oldest released, and so on. In this way we obtained 3 fine laying queens from one hive on the first trial. The others some way got their legs or wings pulled off by mischievous young bees, and after other experiments we finally abandoned it. To replace a poor queen, our plan was to insert a cell and cage it; after it had hatched the young queen was allowed to remain caged 8 days, and was then released in the afternoon when the drones were in full flight. As soon as she returned fertilized she was caged 2 days and then when given the liberty of the hive would usually commence laying immediately. While the young queen was out on her excursion the old queen was generally taken out of the hive to avoid accident. This looks very nice on paper, and in fact can be made to work very well in practice, during the height of the honey harvest, but alas, at other times the bees pitch at either or both the queens, and perhaps at the apiarist as well, and he concludes on the whole, he would rather let mother nature and the bees fix it their own way, wasteful though it may seem.

The above besides, requires too much supervision; some plan should be adopted that would go along of itself as much as possible even if the apiarist were called away, or should find it inconvenient to be on hand at the precise day or hour. We believe a division board fixes this best, all things considered; but it must be borne in mind that to use a division board, for queen rearing, there must be two distinct entrances, and that under no circumstances can the bees be allowed to go into either apartment indiscriminately. If they do, one or both the queens are almost sure to be killed, and for the same reason the boards must fit so that no bee can by any possibility get under or around them. If the entrances are a few inches apart, and a little different in appearance, it answers every purpose; and we have been quite successful in having a colony divided in a common L. hive, one entrance being at the north corner of the portico, and the other at the south. This is some trouble it is true, but by the means we may have the young queen laying before the old one is taken away; and even should the young one need caging, which is seldom the case during the honey harvest, we have both sides of the hive well supplied with eggs when the division board is removed. For all such divisions, it is much more convenient to have the entrance to the hive at the side of the combs as we have arranged it in our "hoop hive." The entrance for the queen rearing side may be only a ⅝ hole bored in the back side of the hive, for but few bees are needed after we have a good queen cell built in some strong colony, and this temporary entrance may be nicely closed up when not needed, by a common vial cork. One great advantage in having nuclei in the back part of a hive, is that when done with, the bees will all go round to the main entrance when this one is closed up, and none will be lost. We would suggest that the nucleus be covered with a piece of thin board instead of depending on the quilt, as the bees are very apt to push under to what is going on in the back part of the hive; for young bees are very inquisitive, and as full of mischief as a lot of puppies. We would have all queen cells built from eggs that are just hatching into larvæ, and none of the larvæ should be larger than to be just visible to the naked eye. This can be obtained readily by putting an empty worker comb in the centre of a strong colony, for about four days. If any eggs should be laid in drone cells, cut them out, for they will at times build cells over them, though they never hatch.

Swarming commenced with us, March 6th. Three gallons white clover honey is the most I've extracted from one hive up to date. You say in GLEANINGS, that upper and lower stories should be exactly alike. Would you have ¼ inch space between bottom bars of frames and bottom of hive and ¼ inch from tops of hive to top bars? As I have 60 or 70 more hives to make this year, I want to get the exact dimensions before commencing.

With ¼ inch space above the frames for tucking down the quilt, which is pretty close work, and ¼ inch below, as we have mentioned, we can get along very well; but the ½ inch between the two stories, is rather too much, and the ¼ inch spaces rather too small. We have preferred in our own hives, to add a hoop which is to be removed when they are placed over each other. See page 27.

Would you extract the lower part of an 8 frame L. hive while bees are working in boxes above?

Since our troubles with starving bees, we have about decided to discontinue extracting from the lower combs, but if the hive contained no upper story, of course we should extract the heaviest of the combs to give them room.

If a colony were well at work in the boxes, we would not extract at all, but if their combs were full and they seemed disinclined to store in the boxes we would extract the honey and set them to work at once. If surplus combs are at hand, we think it will be an excellent idea to have a reserve stock of filled combs on hand for emergencies. It will probably be the cheapest way of feeding that can be devised, especially if honey does not bring more than 10 or 12 cents.

How far ought bottom bar of frames to be from bottom of hive?

The best distance would be such that a bee when coming in laden might reach the frame while standing on the bottom board, and yet not have it so small as to be in any danger of pinching them. Between ¼ and ⅜ would be most desirable if it were not for the fact that frames will in time sag more or less from the weight of their contents, and then we have the very grave fault of crushing or pinching bees between the bottom of the hive and the frames. On this account, a half inch has been sometimes given; but with so great a dist ance the bees find so much trouble in getting up on the combs, that they build little mounds of wax to climb up on; and these lumps or knobs are much in the way in cleaning off the bottom board. If the distance is not more than ⅜ and the bottom boards are painted as we make them, it is quite an easy matter to have them kept clean and smooth.

From the description you give of your new section boxes on page 40, March No., I judge them to be the *ne plus ultra* and *sine qua non*, for surplus comb honey. What would 500 of them cost me delivered here, all cut ready to be put together? I. D. BEDELL, Franklin, La.

The profit is so small on the section boxes that we could scarcely give better rates were 10.000 ordered. They are put up in packages of 30 each, just enough for the top of one of our hives. These packages of 30, measure 5 inches each way, and weigh 2½ lbs; 500 would weigh about 40 lbs; the freight would perhaps be 4 or 5 cents per lb'

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Since you have asked an expression of opinion from your subscribers concerning "patent rights"etc, I now give you mine. No doubt they are sometimes troublesome; and, like every other good thing when abused, often operate to the injury of those they were intended to benefit. To say. however, that only that which is tangible and capable of being transferred has value is a mistake, as you will easily see. Your physician will charge you for his prescription though you get the medicine elsewhere. Your lawyer will not give you advise *gratis*. The mechanic does not impart the secrets of his art without compensation. The schoolmaster, the music teacher, the preacher etc., etc., etc. must all be paid. In fact, when I sent you my dollar for "BEE GLEANINGS", did I only buy of you so many pages of printed matter, or is it not tacitly understood that you are to furnish me with the results of your skill, experience etc. in bee-keeping? That is, you have sold me what you know on this subject, and not merely a certain quantity of printed matter. If it isn't worth the dollar, I can only blame myself. If it's worth ten dollars —twenty— why, Mr. Root, you are very kind to sell so much, at so low a rate. Is the ease with which the right of property may be violated, an argument against protecting it? Surely not. Because I may do a thing with impunity is no reason to conclude that the doing of it is right. Such reasoning would justify murder, or any other crime which could be committed without detection. Neither do I think the labor and expense of a discovery are the sole measure of its value; but its usefulness may be one element. It has long been conceded that no law can be framed which shall not be liable to some objections. Excuse me for going over ground which must be familiar to you, and I will haste to comb foundations.

Mr. P. has purchased what he claims is the sole right to manufacture comb foundations. It is I think, certain, that only the process described in the patent, is covered by it. Inspection alone can determine its extent. I can scarcely conclude that any one will blame you for testing the matter. The intention of the law was not to place the community at the mercy of an individual, and force them to submit to his extortion. Hence any effort to bring the gentleman to his senses will be hailed with satisfaction—at least by *me*. DAN. DONALDSON.

Cleburne, Tex., May 10th, '76.

The remarks you refer to, friend D., were intended to apply to selling receipts rather than to patents and so far as we know, there is no law known by which a man can sell a receipt and prevent the knowledge from being communicated to others. In regard to patents; scarcely a day passes that some of our readers do not ask if they can make hives with frames, use tin between the honey boxes, make an extractor, put division boards in their hives, make comb foundations, make honey boxes like those they have seen, try a house apiary, make hives two story,—see humbugs and swindles—and other things without end, without buying a right. What shall we say? Since the era of postals, there is no excuse for not replying at all, and of course we must give an opinion. Can we do any better, take it all round, than to say "make anything you wish, and pay no attention to what they threaten?" Is not the idea getting to be more and more ridiculous every day?

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The great trouble, has been to prevent swarming just in the midst of main honey harvest. The most effectual way to do this is to get the colony strong enough (and the hive full of brood even if two weak ones should have to be united) to allow the removal of the queen soon enough to get the young queen laying in time for the main honey harvest, being careful to remove all queen cells except one, about the eighth or ninth day, always having queens enough in reserve to supply any losses at the proper time. When the brood is nearly all hatched and the hive full of honey, the swarming fever will be found to have subsided, provided they are kept cool and properly ventilated. The hive now being full of honey, they are compelled to go up into the boxes to find room both for themselves and to store honey; no fears need be entertained about the brood nest, they will move the honey out of the way and having no other place to put it, they will naturally put it in the boxes above.

E. C. L. LARCH, M. D., Ashland, Mo.

The above is based upon the idea that the young queen will not lead out a swarm, and we believe it is generally true; at least, if we were to remove the queens in our hives at the present time and permit them to raise another in time for clover, we should be pretty sure of having no swarms. What are we to do with all these queens friend L.? make new colonies we suppose, but would it not be a bad idea to put our most vigorous queens in nuclei, or at least to deprive them of the army of bees they demand to go on with "business?" your locality is so different that we hardly know how to manage on the plan given, although we know it has at times given most excellent results.

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I made a nice lamp nursery this spring, set it on the ground floor of a small out-building, fixed a box of saw dust around it to retain heat, dug a hole 15 inches beneath, opening to the outside to set my lamp in. I kept the heat at 18° (was that right?) and here I hatched perhaps 125 queens, and introduced them to the hives as fast as hatched; some immediately on taking out their queens, some in a week, and some in three weeks, but with the uniform success of losing 11 out of every 12. Consequently, after a sacrifice or backset to my bees, of one to two hundred dollars, I reluctantly abandoned it; although I put 18 hen's eggs in it and hatched seven interesting little pets that I have to mother; which not having to be introduced to hives promise fair to do well. I thus avoided the common pest (chicken lice) here, bred while hens are setting. R. WILKIN.

P. S.—I have since consulted back Vol. of GLEANINGS and started up my nursery with revived hopes. But my, Oh! this is not much like Ohio, the way bees work here. it almost works the life out of me to keep up with them.

San Buena Ventura, Cal., May 5th, '76.

There is something queer about the mood of bees in accepting queens, and it is also very strange that a few report as above. In our own experience we have scarcely ever seen a colony that would pay any attention to a queen just out of the cell, say before she had been hatched five hours, yet a few who have tried the queen nurseries have given a report something like the above. You need have sustained no great loss friend W., had you kept the old queens to be returned in case the new ones were not well received. It is our opinion that during a yield of honey, queens could in the majority of cases be put anywhere without caging, scenting, or daubing with honey. If you have a queen that you do not value, try it. Lift out a comb, and if the bees are gentle, you can take out their own, and put the new one in her place without a bee being the wiser; at least we have done it a great number of times without mishap. If your smoker is in your hand and in trim, there is but little danger in making the experiment.

*Dear Sir:*—Enclosed find 50 cents balance on extractor. It came in due time, and after several day's regular work I am very much pleased with it. It operates perfectly without breaking or bruising combs in the least. The speed is so very easily and quickly regulated by the operator that there is no need or excuse for throwing out unsealed brood; but your tinner slighted it in one little place. There is a leak where one of upper edges of trough is joined to can. Will have it soldered over by first traveling tinner that comes along. White clover has been yielding splendidly for two or three weeks. I extracted six gallons from one hive at one time last week.

I see in May GLEANINGS, Staples & Andrews, Columbia, Tenn., state they had a queen hatched Feb. 27th. This is not particularly early or very strange, for in this section we could have had them any month during the last winter. I had one hatched Feb. 15th, and fertilized the 25th, which is as prolific as any I ever saw. Her progeny have filled a 20 frame hive full of honey which was extracted on the 12th inst. She is daughter of an imported queen. My box honey is now being taken off and is beautiful.

WM. H. WARE, Bayou Goula, La., May 15th, '76.

I have been wintering my bees in the large Quinby hive on their summer stands with good success, by confining them to 6 frames in the middle of the hive, with division boards on each side of them, and filling up the vacant space on each side and over them with saw dust, oat chaff, and oat straw. The Quinby hives which I have been using, have openings at the top, *front* and *rear*, covered with wire cloth for the purpose of ventilation. I see no use for these openings for summer ventilation, as I protect my hives by a large movable board cover resting on the hives in a slanting position, so as to turn off the water. And as to winter ventilation, why not raise the lid of the hive (rear part) say ¼ of an inch? No water could get into the hive, unless the large cover should be blown off in a storm, or perhaps a little snow might blow in during a snow storm. If these openings are not necessary, some expense can be saved in making hives. Please give us *all the light* you can on this point, in the next No. of GLEANINGS and much oblige, J. A.

It certainly is considerable trouble and expense to put all the wire cloth covered holes into a hive, that were in the sample hive we received from Mr. Q., and as the bees closed them all with propolis just as soon as the hive was used, we can but think it time wasted. Besides, we are inclined to think *no* ventilation holes needed with the loose cover that is ordinarily used on such large hives. Has any one had good evidence that they are required? If the thin hoops, such as we recommend, are used, nothing more would be needed, certainly, and the easiest way for us to make a box of any kind, is to make it with hoops. They would be nice to hold the chaff.

I have been in the bee business four years, and when I get some leisure I intend giving to the Bee publishers the history of my adventures. It will contain some of the tallest blundering on record followed by an equal amount of success. I succeeded in making from one colony last summer a pile of boxes 20 feet high (40 5 lb. boxes or 200 lbs.) I am running this summer 125 colonies, wintered in cellar, without loss, excepting one queen. J. F. CALLBREATH.

White Lake, Sullivan Co., N. Y.

I started last spring with one swarm of Italians, and increased to 5. Sold the third swarm without hive for $6.50. Extracted 40 lbs., and took 20 lbs. box honey from the remaining 4. I must acknowledge however, as I was just learning, I drained them a little too close. Fed one swarm 10 lbs. of the extracted. Put them in cellar Nov. 14th. B. F. DAVENPORT.

Auroraville, Wis., Dec. 25th, 1875.

I will tell you how I introduced three queens the past season. I took a honey box containing bees and honey, from the hive to which I wanted to introduce a queen. I put the queen into this, let it remain off the hive about 12 hours, and then placed it on the hive again; the bees and queen were treated alike and it proved successful in each case. Having never seen this plan given in any journal, I mention it that others may try it it is easier than caging, or other methods practiced by apiarians. CORTLAND NEWTON.

South Otselic, Chenango Co., N. Y., Feb. 14th, '76.

Nearly the same thing has been tried before, and with perfect success in every case, so far as we can learn. The idea seems to be to remove a pint or teacupful of bees from the hive, and to keep them away until they feel lost, and queenless; perhaps a couple of hours may answer. They will then receive any queen so far as we know, and the queen and all may be placed over a queenless hive and allowed to become acquainted gradually. Before deciding hastily that this plan or any other, is infallible, we should bear in mind that queens will usually be accepted without any introduction, during the swarming season, as we have mentioned elsewhere.

I notice an article from J. P. Moore in April No. of GLEANINGS, in which he speaks of seeing many frames of worker comb in section boxes, filled with brood. My experience so far is just the other way, as I have had many frames filled or partly so, with drone brood, but not a single egg laid in worker comb, though there were some with bee bread in. I had very little drone comb in brood chamber last season. (Section boxes 1⅝ inch.) I thought having so little drone comb there, the cause of so many drone eggs being laid above. The bee bread in section frames, in worker comb, was less trouble to me than the eggs laid in the drone comb. I don't remember finding any bee bread in drone comb in the section boxes, but do not know why they would not put it there when they do in the brood chamber. We received 5 $1. queens from Dr. Brown of Augusta, Ga., in Mar.; every worker hatched from them so far, is three banded. C. R. CARLIN,

Quincy, Fla., May 1st, '76.

Some one enquired whether honey vinegar is good or not. I will say yes, the best there is made. It will not die or lose its strength like most other vinegars, and you can have light or dark vinegar as you take light or dark honey to make it from. You can make what is called sweet pickles with it without any fear of spoiling. Last season a neighbor's family bought honey vinegar of me to do their choice pickling with when they had cider vinegar of their own make, as it was so much better, they said, than cider. I cannot give any rule for making it, as I have made it from the washings of vessels used in extracting, and of the cappings after the honey was pretty well drained out, but there has got to be such a demand for it in my neighborhood that I will have to make some from the clear honey this year.

Bees have wintered well in this section so far as heard from, but have consumed more honey than usual. I have lost 10 out of 65, all starved to death. They were all young queens and had evidently bred after putting in bee house as there were more bees than when put in. The most of my bees increased in numbers from the time they were put in until taken out of the house. R. R. MURPHY,

Fulton, Ills., May 6, '76.

*Sir:*—Your postal is received and I will say my experience on rape for bee feed is quite limited. I tried four acres last season and it gave me good satisfaction, yielding a large amount of the finest quality equal to white clover. I shall sow again this season. I sow four quarts per acre and sow between the first and tenth of June, so it will give my bees something to work on between linn and buckwheat; I think a crop of rape if a man has bees, will yield a larger revenue than any other crop that can be put out. Any information I can furnish you I will be happy to attend to. S. Burleson.

Nashville, Jackson Co., Iowa. May 5th, 1876.

Will it do to change the situation of a colony of bees at the time of transferring them, as taking them down from an old fashioned stand and putting them on the ground at another place? The bees could be shut in their hive in the evening until they are moved to the new stand and transferred the next day, and if well smoked then, they might nearly all be shaken down in front of the new hive. An empty hive could be placed at the old stand, and the bees that would gather in it could be shaken down at the new stand in the evening; but I do not know whether bees could be transferred in this way or not. WILLIAM L. AU.

Newburg, Penn. May 8th, 1876.

It might answer, but we think in the majority of cases many bees would be lost. We have tried putting an empty hive on the old stand, and carrying the bees back at night, but although they hummed in as merrily as any new swarm, they would be found at their old home invariably when night came, and carrying them home so many times soon became tiresome. If your new stand is near enough so they can hear their comrades calling, they will generally get the situation of affairs, and adhere to the new home, especially during the fall or spring months, but if the change be made while they are gathering stores daily, there will be more or less loss, almost invariably.

I am very much surprised that an experienced beeman like yourself having plenty of honey, sugar, and *candy* at hand, and every facility for feeding, should let a single bee *starve*; much less such a large number of full stocks. We beginners look to you for example, but if such is the example you set, I for one, shall hesitate to follow, for I think it is a good rule to never follow a bad example. Last fall I bought my first stock, a full one in an old rickety Langstroth hive well filled with honey. I took out 3 frames and ate the honey myself; I also took off the old-fashioned honey board and put on instead, a piece of old carpet and put the hive into my coal house for wintering. But I was like a boy with a new jack-knife, I wanted to be looking at them all the while, and as the winter kept so warm and open I thought they would eat a large amount, and made a practice of raising a corner of the carpet once or twice a week to see how their rations were holding out, always of course choosing the mildest days. Well, I began to feed some ten days ago. Three days ago they had about a dozen cells of capped honey left, and as the weather is yet so chilly they can not work, although there is bloom enough now, I shall transfer to a new hive as soon as they can work to build up. By the way, how is your Russian queen? did you let her starve too?

One word about your wind-mill power. Do you apply the power direct from the mill, or have you some way of storing the power and using it when the wind is not turning the mill?

A. A. FRADENBURG, Cleveland, Ohio.

We know we are not setting a very good example friend F., but had we not told you of our losses very likely you would have known nothing of it, and you can rest assured the temptation was strong to say not a word, but build up again as fast as we could. Should we lead beginners to think it was all clear sailing, we should be very far from being honest, and the sooner they have the real facts in the case the better. The Russian queen, or her bees rather, died with plenty of stores near them, and as the colony was very fair in March, we think we can lay the blame principally to the house apiary. Our power comes direct from the mill, and we believe nothing has as yet been successfully devised for storing up the power. Instead of "making hay when the sun shines," we "make hives when the wind blows." The mill has an arrangement for self regulating, something like the governor to a steam engine, but of course can only equalize the speed after it has reached a certain velocity. As there are many lulls, especially in the summer time, a steam engine is in some respects to be preferred.

Took bees from cellar the 6th inst. They consumed more honey than usual. Found 6 had starved, one dead with honey, two just starving, saved one. One swarmed out; since had them out, 9 lost out of 131. Rest in medium condition. Yours, L. C. ROOT.

Mohawk, N. Y., May 10th, '76.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," and have a friendly chat and feel "at home."]

## CHAPTER XXI.

I HAVE before had something to say in regard to cisterns for rain water; and as so much has been said, and so many directions been given for building them, in the agricultural papers, perhaps I need not go over the matter here. Our cistern was rebuilt two years ago, and a filter made by dividing it in the centre with a wall of soft brick; this furnishes excellent soft water. One word in regard to the size; our old cistern had several times become dry during protracted drouths, and Mrs. R. petitioned so strongly to have the new one very large, that I told her to direct the men to build it as large as she chose. On going home to dinner I remonstrated that we should have our whole house tumbling into it if it was made larger, and that there never *could* be a time when we should need so much water.

"But do you not know how nice it is to be able to tell the neighbors they can all have all the soft water they want, without any fear of the supply becoming exhausted?"

The argument was convincing, and although it cost a good round sum, the cistern was built as large as she wished, and as it was deep in proportion, the water is as cold as if it came from a deep well.

I am afraid we shall now be under the necessity of invading the kitchen and cook room, but before doing so, I will try and describe the way. in which we used to get our water from the pump to the culinary machinery. As both stove and pump were near the door, the state of affairs was not very bad after all. Perhaps the most inconvenient feature was a door-step made by our predecessor, which although made of planed boards and painted, was so arranged as to slant away from the house. thereby making it easy to go out because it was down hill. Mrs. R. is very fond of *plenty* of water as you may have gathered, and somehow, "we children" grew to be very fond of plenty of it also, especially if there was plenty of it in the pail or in the copper reservoir to our Stewart stove; if either of these receptacles needed replenishing we somehow were very busy, and thus it devolved on the mother to bring all the water—if she did her own work—up those awkward sloping steps which were often icy or covered with snow, for the use of the whole family. Ought we to have been ashamed of ourselves? Very true, we ought; but how many mothers are there in our country that find it easier to get the greater part of wood and water themselves ,than to do otherwise?

The door-step had answered very well for years, and perhaps might have answered for years to come, had not the "proprietor of the mansion" stepped out one bright frosty morning in all the consciousness that every "lord of creation" should have, of his weighty importance and value to community, when all of a sudden in spite of his efforts to stand with the dignity that becomes such an one, his feet went up, and he had painful evidence of the—uncertainty of many things in this life, and among them, door-steps that slant the wrong way. Many had been the arguments in regard to this very step, but none farther were needed now. After the cistern was fixed a stone door-step was put in place, but *this* was pronounced too small, and after it was suggested that Blue Eyes might tip off backward, etc., Mrs. R. was again given *carte blanche;* and now we have a smooth stone door step large enough for all purposes, and it neither tips up, nor slides about.

The door-step and cistern were great improvements; some figures were gone over to see how much time and muscular strength were needed to convey the water where needed. Six pails per day would be 42 per week, and washing day would perhaps bring it up to 75 per week, or at a rough estimate 10,000 gallons per year. Theories are very nice but they don't always work in practice, and to test the matter fairly a tin lined lead pipe was laid from the cistern to a small iron pump in a sink placed as near the stove as was practicable; the pump left in its old place for any one to use who felt disposed. The result has shown that the out-door pump is scarcely touched the year round, and so nicely does the pump in the kitchen work that when water is wanted for out-door purposes, we almost always go in to the kitchen to get it. We mention this as it has been said that much extra power was needed to bring water up and into the house, with a pump. With the pump be it remembered, we have only to furnish the power to carry the water alone, while by the ordinary plan, we are obliged to carry the weight of our bodies in addition. For instance; a pail of water weighs 25 lbs., and perhaps my readers on an average would weigh 125. Now if you bring the water, you are obliged to carry yourself and the empty pail, and then carry the water and yourself back again. Perhaps you may remark that you have plenty of strength, and can as well carry the water as not, but what if you find that you are obliged to employ hired help, just because you are unable to get the work done otherwise. We will suppose in your household that your wife can not do her work without endangering her health, unless she has assistance, and that both are kept moderately busy in having everything kept up neat and workmanlike. The one who assists must be boarded, and must necesarily make additional cares, and we have a problem something like the going after the water with a pail. This condition of affairs we meet over and over again. If we can by making a study of the requirements of the kitchen, save but a small part of the laborious work, the heavy lifting especially, we may enable the mother to do her own work about as easily as she could do it with assistance, and with very much less worry and bother. There need be no discussion in regard to the desirableness of saving the dollar a day more that would be required for hired help.

We shall have to go slowly and carefully in the matter of shortening work, for women are sometimes peculiar in their views—isn't that a happy way of avoiding to say obstinate?—and many times they prefer having things roundabout and laborious, just because they are accustomed to it. Our copper reservoir is so high that it is out of the question to have the pump, by means of a tin pipe, convey the water into it direct, and the water has to be lifted up and poured into it. Again, when it is wanted, it must be all lifted out over the top with a dipper; a laborious process when we bear in mind the quantity that is heated in this way. Well I at once suggested that one of our honey gates should be soldered in the bottom of the reservoir, that the water might be taken throu' the side instead of over, and that we might get any quantity without several times dipping. What objection do you suppose the women urge? Well, a lady that has used one thus, says she would not have another under any circumstances, because it is so *very handy* some one will be constantly drawing all the water out and thus leave the reservoir to burn. If they were obliged to bail it out with the dipper it would be so much trouble that no one would take it all. I suggested having the gate up a piece from the bottom; but no, they would rather dip it over the top. The piece of tin pipe proves an excellent thing on washing days, to run the water from the pumps into the tubs whenever wanted.

## CHAPTER XXII.

YOU know this is my department, and that I can use it for any purpose I choose. Well, this is going to be a long chapter, and it may be a little difficult to see just where the moral comes in, yet there is to be a moral to every chapter, and this one is to be no exception.

MR. ROOT, *Dear Sir:*—I see by the paper you sent me, quite a feeling in regard to the foundation comb. While in N. Y., in 1867 I think, I used a lot of comb foundation for trial; it was merely the division or the webbing between the two cells. I found it to work well in honey boxes for producing straight combs (this was of worker size). As I preferred the drone size in the boxes I made a stamp in a circular form, 3 inches in diameter and after the impression was given, I cut the comb through the centre, and by putting the cut edges next the top of the frame it had the form of newly started comb. I experimented with it to quite an extent, and used it for all my honey boxes. I found by making the sheets of wax thick, it remained the same after they had worked it and the wax remained yellow. The man of whom I received the first comb claimed he got the stamps, I think in Germany; be that as it may, an article to be patentable must be new, or the features new, and to the best of the inventor's judgment, the article must never have been in use, or publicly used. If so, it would be public property. I found the thin strips of wax answered the same purpose as far as producing straight combs was concerned.

M. S. SNOW, Ono, Wis., May 3d, '76.

We were aware that comb foundations had been used in Europe, and in fact Mr. Wagner wrote to that effect, if we are not mistaken; but when Mr. Perrine was here we by some means overlooked the fact, although we *did* tell Mr. P. that we could not understand how Mr. W. could claim a patent on the article itself, and even showed some of Mr. W's letters, where he distinctly claimed the machine for making the cell bases, as his invention. As these letters may be interesting, and as they may tend to allay the scruples that some may have in regard to using the foundations, we give some extracts:

*Aug. 18th*, 1870.—I enclose a sample of my artificial comb foundation, the only one at hand at present that can go by mail safely. This was of course not intended for the service of the bees, but merely to show the accuracy of construction and convenience of handling.

With suitable material these foundations can be made as *thin* as desirable, and I am now experimenting to find that material. Wax alone is rather too fragile, and the sheets are apt to be broken if handled in cool weather or winter, besides not bearing transportation well. At present, I prefer using strong, thin paper, saturated with wax or a composition of wax and rosin (10 to 1). If the paper be not thicker than the base partitions should be, the bees will quickly remove the superfluous wax of the coating, and use it for building up the side walls of the cells, reducing at the same time the foundations of those side walls to the proper tenuity. This supplies them with about as much material as they need for completing the cells; and experience or trial has demonstrated that they prefer this to having full depth artificial cells given them. I begin to doubt, indeed, whether this is not more advantageous (apart from the saving) than giving them full depth cells of natural comb, as the *young* bees must and will have employment, even though it be at *tearing down.*

On my plan, comb foundations can be made of any size and form desirable, or adapted to any frames used, as the moulds are constructed of hexagonal type, and stereotype or electrotype plates are then prepared therefrom, of any dimensions needed, both die and countersink. I have bees now at work successfully on such foundations, but desire to have a needed alteration, or improvement rather, made in the matrix of the type, before I get any more cast. The matrix is now at the type foundry for that purpose.

I am very busy, at this time, on the Sept. *A. B. J.*, which goes to press next week. As soon as I have sufficient leisure, I will write you more fully on this matter, as I have some queer things to tell you in connection with it.

*Sept. 7th*, 1870.—The mode of making comb foundations, of which I sent you a crude sample, was devised by me 10 years ago; and patented in April, 1861, before the apparatus was fully perfected, as the patent agent whom I had employed, thought it better to do that than to apply for an extension of the caveat entered a year previous. The war then came on, other engagements multiplied on my hands, and the discontinuance of mails in the Southern states constrained me to suspend the publication of the Bee Journal at the close of the first volume. So, as regards the "foundations," matters remained till within a year past, when becoming more and more assured of the importance and value of the invention, I took it in hand again, striving to perfect the apparatus, and experimenting to find the best and cheapest material for foundations acceptable to the bees. I think I have now accomplished both objects; though it is probable I shall not be able to bring the invention into practical use before spring.

In the course of my experiments, I satisfied myself, fully, that, as stated in the specification of my patent 9 years ago, there is no advantage in giving the bees full depth cells; and even the rudimental bases of side walls, as provided for in my moulds, can be dispensed with. If thin paper be used, well saturated with wax, a clear and distinct impression of the rhomboidal facets, as seen in the bottom of the cells, is a sufficient and sure guide for the bees, and supplies them with nearly enough wax to finish the side walls. This is demonstrated by coloring the wax used with indigo or carmine. It will then be seen how much, or rather how little, additional material the workers have to supply in elongating the cells. The *septum*, or middle partition of the foundations, requires much the most wax, time and labor. The side walls are very thin, and can be very expeditiously run up, on a foundation on which multitudes have room at once to stand and work. A strong colony furnished with such foundations can readily build up the cells of 400 square inches of comb in 24 hours, at the height of the season when cells are in demand for honey and brood. Of course bees will not work so diligently at other seasons, but will still build rapidly enough to furnish the beekeeper with a supply of reserve combs.

Since my invention was patented, several persons in Germany have undertaken to manufacture foundations, and one or two have been successful in making such as the bees will work upon; but none of them make their cell foundations with mathematical accuracy. Mr. Kunz, of Jagerndorff in Silesia, furnishes 8x10 foundations at the following prices: 25 for $1.75, 50 for $3.25, and 100 for $6. He uses wax alone, but finds them so brittle in winter, that he is unwilling to send out any at that season.

Dr. Knaffee, of Nashville, devised a mode of making full depth cells, which look very well, but unfortunately the bees refuse to use them. At least I found it so on trial in one of my hives, and Mr. Gallup says his bees ground them into *sawdust* the first night after they were put in. They will be torn down and rebuilt, or left untouched or unused. My bees tore down a portion, nibbled away parts of others, and never placed honey, pollen or brood in any.

Mr. Quinby has applied for a patent for making full depth cells of *metal*. The queen will lay in such cells, the eggs will hatch, and the bees will in due time seal up the brood, which it is presumable will mature properly. A hive filled up with combs so constructed would probably be *moth-proof* to a great extent; but how a colony thus provided would fare in *very hot* or *very cold* weather, I am not just prepared to say. The mode of making the cells is ingenious, and the process I should suppose to be patentable on the score of *novelty*—as to *utility*, that is yet to be found out. It is not yet through the *mill*, and I must therefore not say more about it now.

*Dec. 19th*, 1870.—A letter I wrote you about a month ago, I think, must have miscarried or somehow gone astray. * * * I also requested you to inform Novice that I would not *sell* him a comb foundation mould, but that he shall have a pair of plates, at bare cost as soon as I can get them made, together with the right of making, using, and vending the foundations in Medina county and any other county in Ohio, which he may select—on condition that he aid me, so far as in his power, in getting satisfactory demonstration that the bees will use, and use them to advantage; and this if possible a little in advance of the opening season. On this point I will write you fully, in season. I have devised a mode of altering the mould, to suit my purpose, without the aid of the matrix maker, and think now that his declaration that the old mould could not be altered and that a new one would be necessary, will in the end save me several hundred dollars. I want to use these foundations, properly modified, for another important purpose which I have been revolving in my mind for years. I shall want your assistance in this matter also. It may be a vain and perhaps ridiculous project, but I have an idea it can be made a success, and if successful it will probably be a "big thing." If visionary I would like you to help in demonstrating the fact. [May not the idea have been the comb honey of to-day?—Ed.]

You will see an article on Artificial Combs in the January Journal, which gets in a month earlier than I thought desirable, as I received nothing from you this month and "copy" was wanted. I would have preferred delaying the notice till I have some of the improved moulds ready to operate with.

Ill health will prevent me from leaving home this winter; but I would scarcely attend either of the conventions, if well enough; the last two German conventions have pretty much put me out of conceit of such assemblies.

*Feb. 1st*, 1871.—After long delay and repeated disappointments, I received from Philadelphia, the *honey comb* type (as they are labeled) which I had cast ten years ago; and shall proceed at once to set up forms for new stereotype plates, with the requisite corrections. As I intend that you shall have the first set cast after the forms are in proper working trim, it is necessary I should know the exact size of the frames you are using in your hives—inside measure—of which please advise me. It is not indeed difficult to adjust the sheets to any size or form of frame, though much better to have them right at once. The sheets that Mr. Bickford exhibited at Indianapolis, as well as others still in his possession, are not properly made, and were not intended to be put to practical use, tho' if cut into strips and applied as guide combs, they would answer that purpose much better than the triangular strips or any other device known to me, hardly excepting the natural comb. A very powerful press is required to make good impression, presenting the rudimental side walls. Mine is a lever press, extemporized for the occasion, and lacks many conveniences, but with some modifications can be made to work fast enough for individual wants, though not to supply a large demand speedily. I shall search the Patent Office for something better, and if not to be found there, shall have to try to invent one.

*March 25th*, 1871.—I am exceedingly mortified that the new plates for comb foundations are not yet ready. The stereotypers promised to furnish them early in the month, but have disappointed me time and again, and the only serious attempt to comply was a wretched failure. I have an assurance again now that I shall certainly have them next week. Time will show. Delays and detention compelled me to transfer the printing of the Journal to Philadelphia, inconvenient as that is; and it now seems as if this job had better have gone there also. There seems to be no dependence on Washington workmen.

SAM'L WAGNER, Washington, D. C.

We confess there is a mystery in the matter, as to whether our friend Wagner meant to patent the product, or the machine. See the following:

> Several years ago we devised and patented an apparatus for making artificial honey comb foundations having rudimental cells, with ease and accuracy.
>
> —*Ed. A. B. J.*, May No., 1867.

Two pages farther, we have an account of plates that came from Switzerland, and on page 175, Vol. 1, *A. B. J.*, Mr. Quinby mentions having made comb foundations as long ago as '46, and that he used them successfully as guides in boxes, as we are doing now. It may be that Mr. Wagner was unaware when he procured his patent, that foundations had been used; at any rate he states plainly that he had a patent on the apparatus, and one patent could not cover both. We are happy to inform our readers that we not only have laid aside the movable type, used by our friend Wagner, but have dispensed entirely with bees wax; paraffine being much cheaper, whiter, stronger, and more rapidly worked by the bees. The idea that the bees will not reduce the thickness of the bottom of the cells is entirely exploded; no argument is needed, for you can any of you test the matter in your own hives. We are now prepared to fill orders for any amount of the paraffine foundations, and if you have any prejudice in favor of pure wax, your best way will be to test some of each—providing you can find any pure white wax in the market, which we think very doubtful.

In our experiments to determine what would give the paraffine the requisite elasticity, we went to the bees and were told they added propolis to their wax when they wanted it very strong, and as they would find it a hard matter to furnish as much white and tasteless propolis as our family will need, we bethought us of a favorite gum of our childhood—Burgundy pitch—and found that this, added to the paraffine in very small quantities, gives just the tenacity needed.

## Notes and Queries.

I CANNOT handle, carry or move your hive without all the frames moving together or out of place. How will I keep them in place when I move the hive to put a swarm in, or take it to its stand. In putting a swarm in the hoop hive, must I take the sections off and put the quilt over the frames? If so how soon must I put the surplus sections on again. I have taken one box of honey from the old swarm, It weighs 20 lbs.

A. FAHNESTOCK. Toledo, O. May, 22nd. 1876.

[Don't put them in place at all, until the hive is where it is to stand. Of course you will put it there as soon as the bees are all in. After the combs are built, you can handle the hive without the moving about, without trouble unless they are to be handled very roughly; in that case we push strips of pine between the ends of the frames. Those who think they would prefer frames always fixed at exact distances, had better try both ways.

Isn't that a little cool friend F., to ask when to put on the section boxes, and then in the next breath mention you have *already* got one 20 lb. box filled? We should be very glad of instruction from *you* as to how to secure such a result by May 22nd.]

FRIEND ROOT:—No one need borrow any trouble for fear I will be around among his hives to see if he is infringing on my improvements. I have no time nor disposition for that. My business is manufacturing hives and honey boxes, and my aim is to sell them so low, (if possible) that no one will care to own a right. But for all that, I have a few customers who *want* farm or territory rights; I sell to such and think it *perfectly* legitimate to do so. To any reader of GLEANINGS who would like to test my improvements, I will send a sample as per price list in April No., and they can make all they want for their *own use*, and I will never say one word against it. Why should not improvements in bee-culture have respect as well as improvements in any other industry?

Yours in the interests of bee-keeping.

GEO. T. WHEELER, Mexico, N. Y., May 19th '76.

[Like yourself, friend W. If we have been going to unwarrented extremes in the matter, we sincerely beg pardon.]

I have bought a quantity of comb in Langtroth frames among which is much drone comb. How will I get the bees to fill out the cards with worker comb if I cut it out?

I have 12 stands of hybrids and some of them have ¼ drone combs; is it best to cut it out? Last season honey crop poor: fed heavy of syrup made of yellow C. sugar, put them in the cellar early. Set them out for a fly in Dec. and again towards spring. Put them out for the Summer Apr. 19 all in prime condition. Drones will be out in a few days. Some queens will hatch 3 days from now.

No name.

Lamoille, Marshall Co.' Iowa. May, 15th. 1876.

[Cut out the drone and then give them to a colony that you have found by experiment, will build only worker comb. Or, put in pieces of comb foundation; this will be easy and sure.]

FOR SALE: My farm, 120 acres with brook and best of timber, on the Boyne (trout river), head of Pine Lake (finest harbor of the Great Lake Navigation) and near a coming Saw-mill, Rail Road, and Docks of rising villages—for $1500. cash. Address,
M. VOGEL. Boyne P. O., Charlevoix Co., Mich. 5-6

SECTIONAL HONEY BOXES.

All who wish to get the most honey in the most convenient saleable form should use our Improved Sectional Boxes. *Combs built true* in the sections every time. Boxes sell for more than first cost.
4-6 Address BARKER & DICER, Marshall, Mich.

Queens. 1876. Queens.

I shall have for sale to Bee-keepers the present season, Choice Tested breeding queens. Raised in full stocks, from selected Imported Mothers. Price,

| | |
|---|---|
| One queen | $4,00 |
| Two " | 7,00 |
| Three " | 10,00 |

None sent by mail.
4-10 Address JAMES LA BARE, Cincinnati, O.

THE ITALIAN BEE CO.

DISSOLUTION.—Mrs. Ellen S. Tupper's connection with the Italian Bee Company terminated February 26, 1876. The business of the Company has been assigned to the management of the undersigned. Mrs. Tupper leaves no accounts, and full particulars upon all incomplete business sent to her or the Company is desired immediately. Price lists of Colonies, Nuclei and Queens, Extractors, Hives, Seeds, etc., will be sent on application to The Italian Bee Company,
4tfd J. E. ROCKWOOD, Manager, Logan, Iowa.

125 Colonies Italian Bees For sale at $7.50 per Colony---10 for $70.00.

Bred from Imported Mothers; are in good movable frame hives, well painted; are in good condition.
3tfd M. PARSE, Pine Bluff, Ark.
Refer. by permission. to Truloek Bros., Bankers, Smart, Hudson & Co., Bankers, Pine Bluff, Ark.

Italian Queens For 1876.

Having disposed of all the black bees in our vicinity we are prepared to furnish *Choice* Queens, bred from *Imported* and *Selected* Mothers. Careful attention being given to the selection of *Drone Mothers;* allowing *none* but those selected, to produce them.

At the following *low* prices we will furnish

| | |
|---|---|
| 1 Unwarranted Queen | $ 1.00 |
| Safe arrival warranted on orders for six or more. | |
| 1 Warranted Queen | 1.50 |
| 1 doz. Warranted Queens | 15.00 |
| 1 Tested Queen in May or early June | 3.50 |
| 1 " " after June 25th | 2.50 |
| 1 doz Tested Queens after June 25th | 25.00 |

NUCLEUS STOCKS.

| | |
|---|---|
| Small Nucleus Hive and Tested Queen | $ 3.50 |
| 2 Full Sized Frames 11-12 and Warranted Queen | 4.00 |
| 4 " " " " " " | 6.00 |
| 1 Colony Pure Italians | 10.00 |

Satisfaction guaranteed.
Address, J. OATMAN & CO.,
2-4p7d Dundee, Kane Co., Ills.

1876. ITALIAN QUEEN BEES. 1876.

We have raised and sold Italian queen bees for the past 14 years. We breed from selected Imported mothers. Ninety per cent of all we send out prove to be purely fertilized. All queens warranted pure, and safe arrival guaranteed, by *mail*. One queen $2.00.
5 H. ALLEY, Wenham, Mass.

PURE ITALIAN QUEENS FOR 1876.

I have on hand 100 Italian queens, raised in May and June last. They were propagated in populous colonies, are pure and prolific. Price $5.00 each. I will pay express charges and guarantee safe arrival.
3-qd W. P. HENDERSON, Murfreesboro, Tenn.

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of his responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

## IMPORTED BEES FROM ITALY.

We continue to import bees from Italy, every two weeks during the season, as we did last year; and we offer them for sale as usual.

| | |
|---|---|
| Prices: Imported Queen | $10,00 |
| Home bred (tested) | 5,00 |

We guarantee safe arrival of queens. We can furnish to our customers the best references among the most noted bee-keepers of America and Europe.

We sell none but healthy and prolific queens. We wish the reader to bear in mind that *nine-tenths of the American queen breeders are now breeding from queens imported through us!* Many of them purchase imported queens from us *every year.*

If necessary we will give to those of our customers who wish it, evidence that we receive 22 queens from Italy every two weeks, during the season, from May to Oct.

Address, CH. DADANT & SON,
Hamilton, Hancock Co., Ill.

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ITALIAN QUEENS bred from imported mothers—a month earlier than in the North. Purity and safe arrival guaranteed. Also full colonies of Italians in Langstroth hives for sale at $15.00 per colony.

Address DR. J. P. H. BROWN, Augusta, Ga.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

## $1.00 Queens.

*Names inserted in this department the first time without charge. After, 10c. each insrtion, or $1.00 per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions; No guarantee is to be assumed of purity, safe delivery or any thing of the kind, only that the Queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

| | |
|---|---|
| G. W. Dean, River Styx, Medina Co., Ohio. | |
| *J. Oatman & Co., Dundee, Ills. | 3t2 |
| *Dr. . P. H. Brown, Augusta, Georgia. | 9tt |
| *E. W. Hale, Wirt C. H., West Va. | 6-6 |
| *J.M.C. Taylor, Lewiston, Fred. Co., Md. | 1t6 |
| *T. G. McGaw, Monmouth, Warren Co., Ills. | |
| *J. Shaw & Son, Chatham Center, Medina Co., O. | |
| *J. H. Nellis & Bro., Canajoharie, N. Y. | |
| *W. H. Balch, Oran, Onondaga Co , N. Y. | |
| I. Cross, Valparaiso, Ind. | |
| Miss A. Davis, Holt, Ingham Co., Mich. | 5-12 |
| Aaron I. Weidner, Bigler, Adams Co., Tenn. | 6-11 |
| J. B. Dines, Libertyville, St. Francois Co., Mo. | 6 |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |

## Bees for Sale.

We, whose names appear below, agree to furnish bees as follows: A two frame nucleus, full of brood and bees, with tested queen, for $6,00, or the same with $1,00 queen for 4,00. Where five are ordered at one time, $1,00 less on each nucleus; * names, use only imported mothers.

| | |
|---|---|
| *E. C. Blakeslee, Medina, Ohio. | 6-tf |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |

## Hive Manufacturers.

| | |
|---|---|
| A. I. Root, Medina, Ohio. | |
| J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| M. S. West, Pontiac, Mich. | 6-5 |

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## HONEY JARS.

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|---|---|
| One pound (square) Jars, per gross, | $6.50 |
| Two " " " " | 8.50 |
| One " " " Flint glass per gross | 9.00 |
| Two " " " " " " " | 11.00 |
| Corks for 1 and 2 lb. jars | .75 |
| Tin Foil Caps, per gross | 1.20 |
| Labels, " " | .75 |
| A thousand labels address printed to order | 5.00 |
| One qt. fruit jars, Mason's patent, per gross | 17.00 |
| Labels for same, " " | .65 |
| A thousand labels address printed to order | 4.00 |
| Uncapping Knives, as good as any, each | .50 |
| " " per doz | 4.50 |
| Alsike Clover Seed, per bushel | 13.50 |
| " " " " peck | 3.50 |
| " " " " pound | .40 |

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## Queens and Nuclei from an Imported Mother.

Ready to ship by June 20th Price of tested queens $3,00; warranted $2,00. Nuclei with tested queen—two Langstroth frames with plenty of brood and, $6,00 each or $25,00 for five. Full swarms with warranted queens in Langstroth hives $12,00, or ten for $100,00.

6tf E. C. BLAKESLEE, Medina, Ohio.

**COMBS,**—I have some in the standard Langstroth frame, of average quality, which I will carefully pack and deliver on the cars at 25 cts. each in lots of fifty or more. Address, F. T. NUNN, Oberlin, Ohio.

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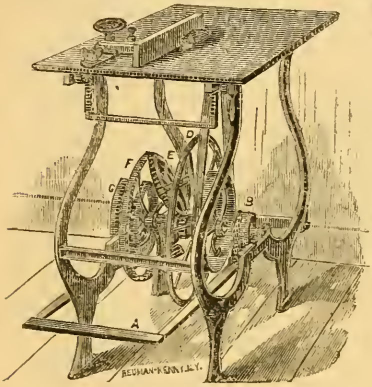
[Wind Mills require neither engineer, fireman, nor fuel, and when honestly made, very little attention; our own has been almost constantly at work for the past five years, and is still faithfully driving saws, lathes, emery wheels, etc., used in the manufacture of our bee hives and honey extractors.—Ed. GLEANINGS.]



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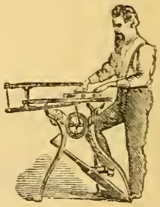

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Large Supply of BACK NUMBERS Provided for new beginners.

As we cannot take the space in future numbers to go over the same ground again, and Volume One contains the entire Fundamental Principles and

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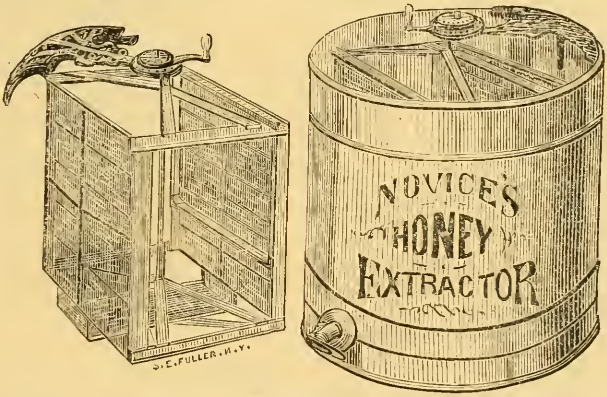
# GLEANINGS IN BEE CULTURE

## Devoted to Bees and Honey.

PUBLISHED MONTHLY, AT MEDINA, OHIO,

BY . I. ROOT.

**Vol. IV** **July, 1876.** **No. 7**



*In the Preparation of this Journal the following are the Principal Periodicals Consulted:*

**American Bee Journal.** *T. G. Newman.*

**Bee-Keeper's Magazine.** *King.*

**Bee World.** *A. F. Moon & Co.*

**British Bee-Journal.** *C. N. Abbott.*

[*Also Bound Volumes of the former since 1860, and Files of all other Bee Journals that have been Published in America.*]

**American Agriculturist,**

**Prairie Farmer,**

**Rural New Yorker,**

**Los Angeles Herald,**

**Scientific American.**

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COMB honey built on our foundations, is precisely like that made without any. No one can discover a particle of difference.

WE have received 90 new names this month, and precisely the same number have failed to renew, so we are 1615 still.

## OUR NEW GLASS HONEY BOX.

The top and bottom are wood, and are about 3-16 in thickness. A small hole is drilled ¼ of an inch from each corner, and a long slim screw is put through tops, and screwed into the bottoms. By turning these screws down, it is plain that you can draw the wood so firmly against the glass, as to cause them to sink slightly into the wood. The screw is just inside the glass which rests against it. If you wish it more ornamental, fold square a ½ inch strip of tin, that is 1-16 longer than the glass; this will cut into the wood, under pressure of the screws, and holds the glass in place, even if it be not cut very accurately. To give you an idea of how cheaply this can all be made, we will remark that the holes are drilled in a block of wood cut to the exact size, before the thin boards are ripped off. The entrance slots (3) are cut in the bottom boards before they are ripped off from a block in the same way. Samples by mail as per price list. When we get our machinery all completed, we hope to give better rates.

## IMPLEMENTS FOR BEE CULTURE, ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

| | | |
|---|---|---|
| 0 | Binder, Emerson's, for GLEANINGS | 50, 60, 75 |
| 4 | Boxes, section with comb guides | 02 |
| 12 | " with glass sides and fancy paper trimming for above | 15 |
| 20 | " four glass sides, 5x5x6¼ | 10 |
| 5 | " without glass | 05 |
| | Balances, Spring, for suspended hive | 8,00 |
| 10 | Blocks, Iron, for frame making | 15 |
| | Barrels for Honey | $2.50 to $4,00 |
| | Buzz-saw, foot-power, *complete*, circular with cuts free on application. Two saws and two guages included. | 35.00 |
| 0 | Buzz-saws, extra, 6 inch, 1 50; 7 inch, 1,75; 8 inch | 2,00 |
| | Comb Foundation Machines complete | $125,00 |
| 20 | Candy for bees, can be fed at any season. Per lb | 15 |
| 20 | Corners, Metal, per hundred | 1,00 |
| 25 | " " Top only | 1,25 |
| 20 | " " Bottom, gal. iron, per 100 | 75 |

On 1000 or more a discount of 10 per cent will be made. and on 100,000, 25 per cent. The latter will be given to those who advertise metal cornered frames.

| | | |
|---|---|---|
| | Combs, empty worker in metal cornered L. frames | 50 |
| 10 | Clasps, for transferring, package of 100. | 25 |
| 0 | Cards, Queen Registering, per doz | 10 |
| 2 | Cages, " | 10 |
| 18 | Case with Separator to hold 3 Section frames. | 06 |
| | Case of 10 of the above, 30 Section frames in all, | 1,25 |
| 2 | Cheese Cloth, for strainers, per yard | 10 |
| | Extractors | $8,50 to 10,00 |
| | " Inside and Gearing | 5 00 |
| | " Wax | 3,50 |
| 4 | Frames with Metal Corners | 06 |
| 5 | " Sample Rabbet and Clasps | 10 |
| 10 | " Closed end Quinby, nailed | 05 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | " present " | 1,00 |
| 40 | Gearing for Extractor | 1,50 |
| 20 | Gates, Honey, for Extractors | 50 |

THE HOOP HIVE.

| | | |
|---|---|---|
| | One story Langs'h without frames or bottom | $1,00 |
| | The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express | 2,25 |

The above is the hive we use and recommend in preference to everything else, and it contains every thing needed for all purposes except at the surplus season. If you decide to use the extractor you want an extra body and 10 frames—$1,25—making complete two story hive—$3.50—or, you can have 30 section boxes (with their 10 cases) in place of the 10 frames, at the same price. If you prefer the old style of glass boxes, we can fit the upper story with 18 having glass on four sides at 12½ cents each; this will make the hive and all cost $5,00.

| | | |
|---|---|---|
| | One story Q. hive without bottom or frames | 84 |
| | The same with bottom, 10 *nailed* frames, division board and quilt, complete except surplus receptacles | $2.00 |
| | The same with two story, 20 frames | 3,00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

A one story complete for 13 frames of either the Standard, American, or Gallup hives, will cost $2,50, and they can also be used with any of the surplus arrangements mentioned; also, as they are all deeper than the Langstroth frame, a single story can be used with fewer frames, and sections or boxes at the side of the frames. As an illustration; we can take four frames out of the one story hives above, and put in their place 18 section boxes.

25 | Honey, Clover, per lb, 16c., Basswood, 15c. By the barrel 2c. less and waxed and painted barrel included.

Honey in section frames or fancy glass boxes, 25c. gross.

| | | |
|---|---|---|
| 0 | Knives, Honey | 1,00 |
| 0 | Labels, Honey per 1000 | 3,25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp Nursery | 5,00 |
| 0 | Larvæ, for queen rearing, from June to Sept. | 25 |
| 15 | Microscope, Compound | 3,00 |
| 0 | Prepared objects for above, such as bee's wing, sting, eye, foot etc., each | 25 |
| 0 | Medley of Bee-Keepers' Photo's. (150 Photo's) | 1,00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | " " Double lens | 1,00 |
| 0 | Photo of House Apiary | 25 |
| 06 | Quilts | 25 |
| 2 | Rabbets, Metal per foot | 02 |
| 0 | Scissors, for clipping queen's wings | 40 |
| 15 | Seed, Alsike Clover, *raised near us*, per lb. | 35 |
| 20 | " Summer Rape. Sow in June and July | 15 |
| 0 | " Chinese Mustard, per oz | 25 |
| 10 | Smoker | 1,50 |
| 2 | Tacks, Galvanized | 10 |
| 3 | Thermometers | 40 |
| 1¼ | Universal Section Boxes in the flat, each | .01 |
| | Universal case of 30 boxes, just right for U. hives or any L. hive, and can be fitted, to *any* hive | 1,25 |
| 0 | Vails, Bee, with face of Brussels net, (silk) | 75 |
| 0 | The same, all of tarletan (almost as good) | 50 |
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| 3 | " " " Queen Cages | 15 |

All goods delivered on board the cars at prices named.

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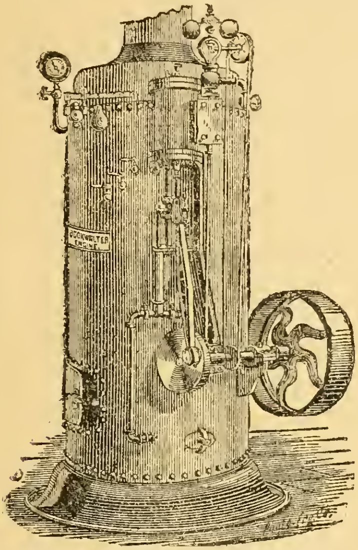

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For further information and new circular of the Bookwalter Engine, address the manufacturers—
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## CANADA HONEY EXTRACTORS.

Made entirely of metal, $8.50 to $10.00 each. The lightest, strongest, handiest and best. You can save about $5.00 in express charges, passing the customs and duty, by ordering from me. I manufacture for Canadians to save them the enormous expense and trouble of importing. In ordering, give outside dimensions of frame or frames to be used. Sample Hives complete, the best for Canada. $1.50 each. Italian queens and bees for sale in their season. Parties in the United States should order extractors from A. I. Root, Editor of GLEANINGS, who makes the cheapest and best.
D. A. JONES,
4t$1.80 Beeton P. O., Ontario, Canada.

## HONEY BEES.

SEND for E. W. Hale's price list of Queens for the year 1876. All Queens raised in full colonies and from imported mothers. No Bee disease in my locality.
1-7d Address, E. W. HALE, Wirt C. H., W. Va.

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I have a lot of Strictly Choice seed, collected from cultivated plants by M. Nevins, of Cheviot, O., which I will sell at 50c. per oz., or at $6.50 per lb.
CHAS. F. MUTH.
3-8d Cincinnati, O.

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Having disposed of all the black bees in our vicinity we are prepared to furnish *Choice* Queens, bred from *Imported* and *Selected* Mothers. Careful attention being given to the selection of *Drone Mothers*; allowing *none* but those selected, to produce them.

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| | |
|---|---|
| 1 Unwarranted Queen | $ 1.00 |
| Safe arrival warranted on orders for six or more. | |
| 1 Warranted Queen | 1.50 |
| 1 doz. Warranted Queens | 15.00 |
| 1 Tested Queen in May or early June | 3.50 |
| 1 " " after June 25th | 2.50 |
| 1 doz Tested Queens after June 25th | 25.00 |

NUCLEUS STOCKS.

| | |
|---|---|
| Small Nucleus Hive and Tested Queen | $ 3.50 |
| 2 Full Sized Frames 11-12 and Warranted Queen | 4.00 |
| 4 " " " " " " | 6.00 |
| 1 Colony Pure Italians | 10.00 |

Satisfaction guaranteed.
Address, J. OATMAN & CO.,
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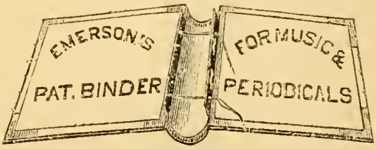

You cannot look over the back No's of GLEANINGS or any other Periodical with satisfaction, unless they are in some kind of a Binder. Who has not said—"Dear me what a bother—I *must* have last month's Journal and it's no where to be found." Put each No. in the Emerson Binder as soon as it comes and you can sit down happy, any time you wish to find any thing you may have previously seen even though t were months ago.

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|---|---|---|
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| " American Agriculturist | ($1.60) | $2.35 |
| " Prairie Farmer | ($2.15) | 2.90 |
| " Rural New Yorker | ($2.50) | 3.25 |
| " Scientific American | ($3.15) | 3.90 |
| " Fruit Recorder and Cottage Gardener | ($1.00) | 1.75 |

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| Allen's (L. F.) Rural Architecture | 1 50 |
| Allen's (R. L.) American Farm Book | 1 50 |
| Allen's (R. L. and L. F.) New American Farm Book | 2 50 |
| Allen's (R. L.) Diseases of Domestic Animals | 1 00 |
| American Bird Fancier | 30 |
| American Gentleman's Stable Guide | 1 25 |
| American Rose Culturist | 30 |
| American Weeds and Useful Plants | 1 75 |
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| Breech-Loader | 2 00 |
| Brill's Farm-Gardening and Seed-Growing | 1 00 |
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| Burr's Vegetables of America | 3 00 |
| Caldwell's Agricultural Chemical Analysis | 2 00 |
| Canary Birds. Paper, 50 cts. Cloth | 75 |
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| Chorlton's Grape-Grower's Guide | 75 |
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| Scroll Sawing with Patterns | 1 00 |
| How to Make Candy | 50 |

### BOOKS SPECIALLY FOR BEE-KEEPERS.

| | |
|---|---|
| Langstroth on the Hive and Honey Bee | $2.00 |
| Quinby's Mysteries of Bee Keeping | 1.50 |
| Bee Keeper's Text Book, muslin, | .75 |
| " " " " paper, | .40 |

These are the best, but are all far behind the times.

A Manual of Bee-Keeping, by John Hunter.......$1,25

This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

Manual of the Apiary. By Prof. A. J. Cook....... 30

This although small, is the only book we have in America that is at all up to the times.

# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
*Publisher and Proprietor,*
**Medina, O.**

**Published Monthly.**
**Established in 1873.**

**TERMS: $1.00 Per Annum in Advance; 3** *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

Vol. IV. JULY 1, 1876. No. 7.

## BEE MEN, AND BEE MATTERS, NEAR MEMPHIS, TENN.

DEAL NOVICE:—This place is only twelve miles from Memphis and right on the R.R., yet people here are as ignorant of bee-culture as any back woods place ought to be at this day and time. When I came here . in Jan. last, if I said any thing about bees, I was asked "have you seen Dr. E——" or "John S——" some one, some the other; "he is the bee man around here". I found the Dr. with thirty four colonies of common bees in box hives, about twelve inches square and deep, with a small cap. I got him to go and look at my hives and had considerable trouble to convince him that twenty Langstroth frames were not too many. He finally concluded to take 10 hives (by my agreeing to give him 10 more for the use of 10 good colonies for the summer) at $2.75 each. We transferred about 25 to get them strong, and have got our money back already. He is satisfied now, but will not take my advice as to buying books or papers yet.

I am working for extracted honey altogether, of which I have sold all I have ever been able to get yet, at 15 cts.; so the regular Langstroth frame in one story holding 20 frames suits me very well here. I make them at $3,00, or $2,75 in lots of 10. I use cypress, which I like nearly as well as pine, dressed on both sides. Cheap enough is it not? Work all done by hand except dressing the lumber, and strips for frames. I must have one of those saws after they are tried a little longer, if I can get more than I can do by hand.

I can give my testimony in favor of honey vinegar. We have used no other for two years, and nearly every one who tastes our pickles asks my wife for her receipt for making them. When told that we use nothing but honey vinegar, they are surprised, and say that they have always heard it would not keep pickles. The only trouble we have had is, it keeps getting stronger and stronger, and we have to occasionally put in some water. As we have only used the waste honey from extracting, can not give the proportions of honey and water, but usually have it too sweet at first; and have to add more water. If it does not sour enough, we put it in a keg and set it in the sun with a black junk bottle in the bung. Do you think the bottle has any thing to with the circulation of air? I have thought it might.

In reference to small or large type I am in favor of the majority's ruling, and it seems to me all those whose eyes are good yet, will vote for small, and the older eyes for large. If the consideration of respect for age be left out, it is only a question of whether your readers mostly wear spectacles or not.

My last machine before this one had no wire cloth inside the tin bars, and I find I can extract from new comb with this, better than the Peabody, which I had first, or your other. Yet I liked the arrangement for turning the casting back and taking out the frame work very much.

I think your Home department a splendid feature and well worth the extra "two bits." It suggests many things most of us never thought of, and spurs us up to other things we know but had put off. "Line upon line, and precept upon precept."

I have never known any trouble here wintering bees except from starvation.

Speaking of comb foundations; when I moved here I sold most of my bees and I priced them in this way: first, the hive so much; next, bees and six frames of honey so much; and then 15c each per comb for all additional. Many thought that too high and I moved a great many combs here which have been worth the money already.

I forgot to tell about the other bee man that I spoke of in the beginning. He had several patent hives and was "out," so some of his friends told me, over $30,00 for "rights." Had taken the premium at the county fair for the best honey in boxes. I went to see him—not at home—saw his bees—frames all sizes and some of them two inches wide; saw several hives that had pollen, a prey to the moth; no regularity in hanging frames in hives. He came to see me three days ago and wants to sell out. Should think so. Bees had been swarming every day and going to the woods.

Well, I have written most of this that you might see the ignorance that prevails, even within 12 miles of a city like Memphis. Is it any wonder men like Mitchell flourish? Keep up your humbug column, I have spoiled their fun here.

I "reckon" you will think I am well acquainted with Novice, if you know little about *me*. I have been *following* you since 1870 and should feel acquainted were I to see you, which I hope to do some day.

G. W. GATES, Bartlett, Tenn., May 29th, '76.

* * *

JUST now there is considerable discussion in regard to the merits of imported queens, and the dark colored are being rather severely censured. We would advise our friends before saying harsh things, to put the suspected workers on the window, and see if the yellow bands are not all as they should be. Perhaps they may be of a dark leather color instead of yellow, but if they are full and distinct, should it matter about the color? All the bees we have seen that were reared from the Dadant importation, show the marks quite satisfactorily, especially when young; yet when old, many might pronounce them hybrids; or even black bees, just because the bands are of the dark hue mentioned. Honey is the main object, and bees that can board themselves; not bees that are pretty to look at. Is it not likely that the bees of Italy, are diverse in their markings, like animated creation of every kind?

## HOW TO GET ONE SWARM AND NO MORE, AND BOX HONEY.

I HAVE purchased of Mrs. Grimm, three colonies bees in hives, as per ad. I have also sent to J. Oatman & Co., Dundee, Ill., for material for three Langstroth hives, as per ad.; and as a novice in bee management I feel somewhat puzzled to know how to proceed further, and naturally think of looking to you for information. I should like to allow my bees to swarm once only from each colony, and from the balance of their labor to obtain box honey. Can the object be secured? If so, how shall I proceed to avoid swarming more than once from each hive?

What have you for sale in the line of surplus honey boxes, suitable for such hives as I have described, and how many will I be likely to need with my stock of bees? My bees are seemingly doing well, but I notice occasionally a few dead ones in front of hives; is there likely to be any thing wrong with them? When is the proper time to use the honey boxes? C. P. FRIEND.

East Paris, Mich., May 29th, 1876.

To obtain one swarm from each hive, and one only, is a result that a novice will be very likely to fail in securing, with the best directions perhaps that can be given, that is, if we are to work for *box* honey only. Perhaps no question is now asked oftener than, when to put on the boxes. We can only repeat what we said on page 52, and the directions pasted on each hive we send out; viz., put on the boxes just as soon as the bees have filled all their frames and need more room, providing honey is coming in, and they need room in which to store it. If they are put on sooner, it does no good, but harm; for it allows too much cold air to enter the brood chamber. The hive should be of such size as to have the bees at all times fill it as nearly as may be.

It is utterly out of the question for your editor or any one else to tell you when to put on the boxes; you must *look, and see* the condition of the hive inside; if you find there is empty comb on the outside, make them fill that first; and if the centre of the brood nest looks crowed, or if they are building bits of comb at the ends of the frames, it may be well to put the empty comb, if worker, in the centre; but have all full before you put on the boxes. Of course we consider the Universal section box and case at $1.25 the best surplus arrangement, or we should not have named it thus. As these cases contain 30 boxes of 1 lb. or more each, your colonies might if extra strong fill two cases each. But we think 1 case each per hive on the average, would be a very fair yield, even though some hives might fill three.

Now the prevention of swarming, depends much on giving the bees all the room they want, and yet not too much. If after the first swarm issues, you open the old hive—the cases of section boxes favor this operation as they may all be removed at once—and very carefully remove all but one, of the queen cells, this generally answers with common bees, but the Italians will many times swarm without any queen cell, or without taking any steps toward the construction of one. If after taking away all their queen cells but one, they should still persist in swarming, we really know of no way of stopping them unless we take away their honey with the extractor. If we are going to raise box honey exclusively, perhaps the best we can do will be to let those swarm, that are determined to, and hive them on a set of empty combs; or move the hive to a new location, and put them back into it as we have mentioned heretofore. Those that can be kept from swarming by giving them plenty of room, and our case of section boxes gives a large amount of room very close to the brood, will usually give us a large crop. This requires a good deal of watching it is true, but if you get tired of it, go back to the use of the Extractor.

## THE BEE DISEASE, AND USING THE COMB LEFT, FOR NEW COLONIES.

EDITOR GLEANINGS:—Last fall I had five colonies of black bees, in movable frame hives, from one I had wintered in a box hive the winter before. The first of March, two of them died of dysentery, leaving plenty of rather thin honey. The other three seemed to be doing well at that time, but became uneasy. I kept candy and sugar on the frames, but they would crawl out and die; and died in the hive so that by the time I got them on their summer stands, which was the 10th of April, there were but few left and they soon dwindled out. I didn't like to give up bee-keeping thus. The farm would be too lonesome without them.

I have bought two stocks of pure Italians, of Mrs. Grimm. They came all right and are doing nicely. From the two swarms I lost in the winter, I took combs for one, but the others have left their combs empty and somewhat soiled. I can fit the hive over those I got of Mrs. G. for a second story, but the frames hang the other way from the Langstroth, that is, across them; being Gallup. Would that make any difference? Is it advisable to give these combs from the bees which died, to other bees, either as second story or for new swarms? S. C. PERRY.

Portland, Mich., May 25th, '76.

The symptoms mentioned are precisely those of the spring malady, and yet our friend Bolin and others make light of it, and tell us it is all our own fault, etc.; as it seems on the whole to be vanishing, perhaps they may never have a trial of it. Our friend Blakeslee has for the first time. this spring seen a colony die by dwindling, when supplied with plenty of stores; and it really seems to run for a time in particular localities, gradually making its way into new ones. Careful experiments given in our former Vols. seem to show that the honey that causes the bees to die one winter will be perfectly wholesome for them the next. We have found such combs just as good as any during warm weather. The frames can be set in the upper story at right angles to the lower ones, just as well as any way, providing the hives are set level; in fact, some aspiring individual claims to have the idea patented, as offering peculiar advantages. If good strong colonies carefully prepared in the fall, are not a safe-guard against the spring troubles, they will certainly be more likely to survive even after having their numbers thinned down.

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I commenced two years ago with one stand, and from them the following season wintered 7 stands; and this spring, all are flourishing and most of them Italianized. And now I must contrive some way to get the honey without destroying the comb.

ELIZABETH T. BROWN, Lincoln, Va., May 5th, '76.

## DEPARTMENT FOR BOX HIVE BEE-KEEPERS.

WE rather feared no one would volunteer to conduct, or rather defend this department; but our old friend Heddon turns up just in the nick of time, to do the talking, at least. Now friend H. if you don't practice as well as theorize, we will never more have confidence in your——skill. We shall expect you to start just such an apiary, and tell exactly how it prospers, without letting prejudice bias your writings in the least; and if you find yourself mistaken, to own up like a man. One of your strong props "Walks and Talks" it seems has already come back to the extractor with a suddenness that fairly "jolts" a body. Please don't predict what the future will be in regard to honey, for the future is sometimes quite startling in its unfoldings.

### HEDDON'S BEE GARDEN.

EDITOR GLEANINGS:—I see by June No., page 132, that the "scales" are dropping from your eyes *some*, in regard to these "new fangled" trinkets and notions. Now, I *have* said, that we have *nothing* to-day to warrant success, that bee-keepers did *not* have 20 years ago.

I can establish an apiary, in a suitable locality, and if I put enough capital into it, and my knowledge and natural tact, or adaptability to the business, is *equal* to the investment, I may be as sure of a suitable return as from any other *producing* business. Let is not be lost sight of, that *producers* of all classes, "*earn* all they get," as Mr. L. C. Root says.

Now I propose to establish this apiary (for profit) upon very ancient principles. I want *no* extractors at all, *no* comb foundations, *no* queen nurseries; *no* Italian bees, no movable frames, and NO apiarian near enough to divide the "field" with me.

Since I have been engaged in bee culture, (and I have made it a SPECIALTY for 8 years) I have been "through the mill" with all these appendages except the foundation comb, and I mean just what I say, and can prove it.

"Well what *do* you want?" I hear some one say. Ans.; STRONG STOCKS, a good yield of nectar, and free communication to the surplus receptacles. Which one of the above *supposed* requisites, will insure these *real* advantages?" Echo answers, "which?"

Do frames in hives cause the bees to become strong in numbers and do golden bees keep the brood chamber full of larvæ, and the surplus receptacles full of *white delicate* combs? Does an extractor lessen your labor and help you to *dispose* of your surplus? In fact does taking "the labor" off the bees hands and on to our own shoulders seem much like "progressive *bee* culture?" Perhaps it ought to be called "progressive" honey making, almost without bees, but that *too*, is old; especially in the line of clear honey. Yes, and I may say, combs too.

Our fathers knew nothing of frame hives. We know nothing of box hives. A BOX HIVE *properly made*, of the *right* dimensions, and proportions, will *better* accommodate the apiarian, and assist him in doing *all* that he can afford to do (for profit) in a large apiary, than any frame hive can.

The above are facts, as I see them, and if *desired*, I will in a future article, tell *how* this *box hive* is made, and also give my favorite method of hiving, making artificial swarms, examining stocks for all purposes, etc., etc. If we have got to dispose of our honey at the present low price, hadn't we better look up the matter of how we are to have a steady demand for it, as for wheat, and other productions? Who will publish a manual that will shed ONE ray of real light (no fox fire) on "How to winter bees with *full* success?" (Like the box hive men do, when *we* do.) "How to sell their surplus honey for the most *sure* pay?"

The season we *can't* change *much*, and those other "progoressive" points, we will get along with, without any book.

I think of leading off on another track, and getting all the "old fogies" (that would just as soon eat black as Italian bees' honey) to follow.

JAMES HEDDON.

Dowagiac, Mich., June 9th, '79.

Of course you don't want any "book" friend H. It would only be a great bother, and of no kind of use.

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We promised last month, to tell you more about working the shallow box hives; have gleaned from a friend that if a box hive will neither swarm nor work in boxes, they can be started out by simply turning the hive over and drumming a swarm out. To do this, a hive of the same kind is inverted over it, and the old hive is pounded with sticks on the side boards until the queen and greater part of the bees are in the upper hive. Now place the new hive on the old stand, and give the old one a new location. Our informant states that these drummed out swarms will go to work ot once with all the vigor of new natural swarms, and if the season is early, will, besides filling their hives, almost invariably fill a set or more of boxes. But to get a large yield, have the hive furnished with a full set of comb; you may then put on the boxes as soon as the swarm is made. To get these empty combs, save them from colonies that have perished; or, if you do not have that kind of luck, buy them up of those who do. If you want *enormous* yields of honey, and do not care for increase of stock, there is still another plan; and perhaps we should mention that this plan is one that is used by our friend Butler of Jackson, Mich. It is to get a good natural swarm, and hive it on a set of combs filled with brood, taken from other hives indiscriminately. By this means we get all the native energy of the new swarm, and reinforce this energy by multitudes of young bees that take the place of the old ones as fast as they wear out. This can be done with box hives by drumming a swarm out as above, and putting them into an empty hive; as soon as they get well at work, or after their hive is partly filled with comb—one or two days—shake them out of it, and put the parent hive in its place, cutting out all the new comb built and using it for starters in the honey boxes. You will need to watch, and see that too much honey is not stored, or you may have a sticky job of it. If you can take the trouble to separate the sections and give the new swarm the brood combs from several hives, you will get a much greater yield. Do not let your bees idle away their time on the outside of the hives, whatever they do.

## NOTES FROM OUR EXCHANGES.

THE *British Bee Journal* has an article entitled "The Mysteries of the Bee hive," that is so spicy, racy, and so full of quaint truths, that did space permit, we would like to give it entire; in fact the only fault we can find with the work, is that it is a good deal better than anything we can do, even were we as well posted. Friend Abbot long may you wield the pen. We extract as follows:

"Now having seen the bees enter the hive with their respective spoils, let us watch and see what they do with them. The honey or water-laden bee, as a rule, marches directly to the honey-cells, beyond, above, or possibly within the brood-nest, and if not waylaid by a hungry young nurse-bee, will discharge the contents of its honey-sac into one of them; but should it meet with a sister craving for liquid with which to make the pap for the young bees, it will at once impart to her the contents of its sac, and go back to the fields for more. There is great economy in this latter proceeding, as it saves the labor of storing and withdrawing the newly-gathered honey, and leaves that already stored intact, to be added too only when the ingathering is greater than the demand.

The pollen-laden bee upon entering the hive makes directly for the brood-nest, and where its load is required, it quickly disencumbers itself. Sometimes the nurse-bees are in want of the all-necessary pollen, and nibble it from the legs of the worker without ceremony, but more often the bee goes to a cell devoted to pollen storing, and hangs by its first pair of legs to another cell immediately above, and by the aid of its middle pair of legs it unloads its hindmost, and (as it were) kicks the balls of pollen into the proper receptacle. Here they are mixed with a little honey and kneaded into a stiff paste, which is then rammed hard against the bottom of the cell, for future use, the bee using its head as a battering ram; and these operations are repeated until the cell is almost filled with the kneaded dough, when a little clear honey is placed on the top, and it is sealed over and preserved as bee-bread. If a cell-full of pollen be cut in two, longitudinally, its contents will, as a rule, be found of many colours, stratified, the strata of varied thicknesses standing on edge, as if the bees, instead of storing bread, had stored pancakes."

We owe a vote of thanks to the editors of the *Magazine* for their very full demonstration of the fact that the foundations were in use, and publicly advertised in the German Bee Journal, as long ago as 1859.

It seems to us there is still too much trouble borrowed by many of the writers, in nearly all the bee Journals. The bee-keepers who are busy at work have little or nothing to lament about, and those who denounce so heavily, we fear are too often committing themselves hastily. In regard to the comb foundations, we have of course many points to determine; but would not careful and candid experiment be in better order than rushing into print against them at this early stage of development.

It is really painful to receive letters that seem written with the express purpose of "using up" some certain person or thing. Can we not work together with the disinterested candor that would become a band of brothers searching for the truth, and caring little who it is that finds it first?

We must enter a little protest against the hard things that are said about our friend Dadant, although at the same time we *do* think it looks a little bad that there are so *many* complaints against him. If we may be excused we would advise Mr. D. to have his customers satisfied, even if he had to return the money he had received, when he knew he was in the right. To his customers we would suggest that if he really meant to be dishonest he would send out *yellow* queens instead of black ones, for these could be furnished almost as cheaply as the common queens at the present time, and perhaps even cheaper for one in Dadant's position. If so disposed he could give the best of satisfaction by selling golden queens, and all would pass lovely; but the fact that he continually sends queens that are not handsome, in spite of the clamor for "nice ones", is to us good evidence that he gives just such as he is able to procure from Italy and *no other*, even when the temptation might be very great at times, to send out just such a one as was wanted. Among all the complaints, we think none has been made that his bees were not industrious. Visitors frequently tell us when showing them a queen, that they would not take such a one as a gift, simply because they look so much like black queens; and this may be the case, when they have no fault to find with the workers. If we get the honey, what else *do* we want?

## ARE BOX HIVES MORE SUCCESSFUL THAN FRAME HIVES FOR WINTERING?

WHY do bees in good solid box hives, winter better than in frame hives? I have transferred 30 hives in the last few days and have a solution of the question, but ask in GLEANINGS. I will answer it in one of the magazines shortly, in an article on wintering bees. The old log gum and the box hive are more uniformly successful than the movable frame hive; it is demonstrated to me every winter, and in transferring I tried to study the philosophy of this thing. Now in the box or gum there is no upward ventilation, every crack and crevice is closed; more, the top is closely filled with store combs reaching from side to side, and when the bees pack between the combs there is a very small amount of vacant space. They have no upward ventilation, they have no absorbing material above them nor in any place, —even the sides of the hive are coated with glue—yet we *cultured*, *educated*, apiarians give them both. I use the wide or closed top frame and find that my small hives with the top glued tight so that bees nor water can get through, winter best. What evidence have we that the bee renders the air impure by breathing it? or even damp, as claimed by some? Why, sir if there were as much water thrown off the lungs of the bee as some claim, it would run off the bottom boards of box hives; yet in my frame hives, frost collects on the glass. Well, what makes it? Ventilation. How will I prove it? By giving ventilation to one of my hives through the propolis on the end or side next the glass. But excuse me, I didn't want to waste paper. You need not read this side.

JOHN F. LAFFERTY, Martinsville, Ills., June 10, '76.

A great many friend L. have taken the position you are now taking, but we believe they have nearly all abandoned it sooner or later. Could you read the reports we do, we think you would conclude the wintering troubles were pretty nearly as bad with box, as with other hives. The water does most assuredly run off the bottom boards, and we have seen icicles *inside* box hives almost as large as one's arm. During the past winter we had two hives that we traded for, having honey boards covered with propolis, and cemented down tight. These hives had old combs in them, and their owner said he had no trouble in wintering them in the open air: yet when left undisturbed in *our* yard, they dwindled down until almost nothing was left, and one of them today has less than a teacupful of bees. They have abundance of natural stores left yet, and as we did nothing at all to them, why should they thus run down? From reports we should judge that want of ventilation had killed almost as many bees as starvation, and yet right in the face of this, we hear occasionally, of bees that winter all right with every thing gummed up apparently water tight as you mention. We are inclined to think the box hives you mention have cracks or crevices that admit a small supply of air after all; yet we agree with you in thinking it utter folly to bore holes all over a hive and cover them with wire cloth. It should also be remembered that unpainted hives admit the moisture to pass out through the pores of the wood to a considerable extent.

## DOOLITTLE'S APIARY.

WE moved our bees (106 stocks) to our new house Dec. 11, putting 54 in a cellar built as decribed in GLEANING Vol.II, page 133, and leaving 52 out doors, 24 of which were packed with straw on 3 sides, and caps filled also. Jan. 1st, being very warm, and our bees not having flown since Nov. 13th, and having been moved during the time, we thought best to set them out for a fly. They flew finely and were set back at night, yet while those out doors specked things badly, those from the cellar hardly spotted anything at all. The temperature in the cellar varied but 2° all winter until March 15th. After that time I could not keep it as steady. The temperature was 41° to 43° until March 15th, and from then on, from 43° to 48°. Those out doors had a chance to fly as often as once in three weeks. April 11th being a fine day we set the 54 stocks out, finding one dead and three queenless which we united with others leaving 102. On April 18th (it having been so cold for three days that bees were packed closely) we examined all our hives and found that the 24 packed with straw averaged 7¼ spaces occupied with bees; those from cellar 6 spaces, and those out-doors with no straw save in caps, 5¼ spaces; showing a decided advantage for the straw packing and some advantage for the cellar wintering. Our bees all consumed an undue quantity of honey, but the average amount consumed in the cellar was 5 lbs. more than that outdoors.

Hard maple opened May 15th, from which our bees got an abundance of pollen. Willow commenced to blossom May 19th and lasted three days, from which our bees made a gain of about 2 lbs. to the hive on an average. And here let me say, we have several kinds of willow and have observed very closely, but as yet we never knew of a bee's getting a bit of pollen from willow, although many writers claim it produces large quantities. From all light we can get willow produces no pollen, more than does the pumpkin or squash.

Apple opened the 29th, and lasted till June 2d, from which the bees made a gain of about 10 lbs. to the hive, for which we were very thankful as we had not over 100 lbs. in our whole yard when it opened. After apple we always have a time of scarcity to the 15th of June, and unless they get in apple we have to feed when we are as short as we were this spring.

June 3d we examined all our bees and all that had 500 square inches of brood and upwards (which was 43 in number) we let remain as they were, the balance we are uniting so as to fill every hive with brood. We shall therefore have 70 to commence the season with. We have united bees at all times of the year and think this the only practicable time to do it.

June 9th we were visited by a terrible thunder storm during which the lightening struck our house, and the flood came down from the hills above us and blocked up with brush, stone and mud so as to run down through our bee yard to the depth of 15 inches. Oh, how it rained and how we worked to get the bees out. The water and mud rose high enough to reach the combs of 39 of them, some of which were filled two-thirds full, which killed nearly all the brood as far as it went. Only those that would hatch in two or three days lived. All empty cells were left one-third full of mud which the bees seem loth to remove for the queen to deposit eggs. At least 400,000 bees were killed in the brood state, and these were just our basswood workers. But we are thankful to our Heavenly Father that our lives were spared, for Mrs. D. was standing in the door right under where the lightening first struck, but escaped unharmed on account of the tin roof we think, as it followed out to the conductor pipe and thence to the cistern.

We can exercise due charity toward Mr. Perrine after the Chicago fire, but his agreeing to pay us for the honey delivered at the R. R., and not fulfilling does not call for any charity. We believe you thought your charity toward Mrs. Tupper was misdirected.

G. M. DOOLITTLE, Borodino, N. Y., June 15, '76.

## LONG ONE STORY HIVES.

PLEASE give us a chapter in GLEANINGS, on the management of the single story 20 frame hive, for extracted honey.

WALTER WADE, Pettit, Ind., June 10th, '76.

The management of the long hive is very simple. If the colony becomes weakened in spring, close up the size of the hive with division board to correspond to the number of combs they can cover, and then enlarge as we have before directed. When honey begins to come in, give them room as fast as needed. Our expersence seems to show that it matters little whether the brood nest is near the entrance, or at the back part of the hive, only that the bees plainly show a preference for having one or more comds between the ends of the hive and the brood. These combs are the ones that will contain the greater part of the honey to be extracted. It will save both yourself and the bees much labor if you use drone combs to hold the surplus honey, and keep them at a greater distance apart than the brood combs. We would commence extracting at the back end of the hive. and as fast as the combs are emptied, put them back in the hive turning the quilt back only so far as is required if robbers are troublesome. We would advise at present, that the brood combs be left undisturbed, and that enough honey be left in the hive at all times to keep the colony over winter. In one sense this might be considered wasteful. but for the masses of the people, it is very *safe* advice to give. If we follow this plan, the long hives have very little advantage over the two story hives. and it is easier work extracting from the latter where they stand directly on the ground as far as stooping is concerned. We find them now more disposed to store above the cluster, than to go very far horizontally; hence our preference for the two stories.

## SPREADING THE BROOD, HONEY BOXES, CHAFF, ETC.

FRIEND NOVICE:—GLEANINGS for June is in hand, and its visit finds me so busy that I scarcely have time to turn round. My bees came out with the loss of 3 out of 54. Had queen cells started for swarming on May 26th. I don't agree with you in relation to inserting empty combs in the brood chamber; a new strong swarm with hive full of bees may fill all their combs without spreading, but I think friend Doolittle will tell you that his quart of bees wouldn't amount to much if he didn't spread the combs. I inserted the first combs this spring, May 6th, and I know the queen would not have occupied the space in several days. I find it a very good plan to mark the date on the top of the frames, then you know just when that comb will shell out the young bees. It requires some experience to spread the combs just at the proper time; the new beginner is liable to overdo and ruin the swarm. Although a strong swarm may fill their hive with brood, I find in my apiary that the front and rear combs are usually filled with bee bread and honey, and would not be filled with brood but for removal and spreading. We have inserted such frames, filled with bee bread, in the centre, and next day found the bee bread all removed from the centre of the combs and eggs in its place.

You will find a description of tin cornered honey boxes in King's Bee Journal, Vol. XI, pages 42 and 66, for the year 1870; and I used such boxes the same year. Mr. Isham's patent I think covers his method of applying the tins through a mortise, while the old way was to tack the tins to the cover. A very neat box can be easily made by getting out your top and bottom, size required, and setting 4 wires, about No. 30, and as long as you want the height of the box, ¼ inch from each corner; cut the glass accurately and hold it in place against the wires, by pieces of tin driven into top and bottom pieces. The corners can be covered with fancy paper. I am using a few of the above pattern, they are very easily and cheaply made.

I like section frames better than any other method, and if the honey is put in bulging, I make several sections just large enough to slip over the honey sections, like a cover over a box, with glass on one side. You can slip one on each side of a frame and accommodate the bulge. We can make these very easily of wood just as we make our sections, but I suppose they could be made of paper just as well. We make our sections by grooving the ends, and we think it pays to have your glue-pot on the stove and when you put them together, dip one end of each piece in it; it makes a very solid frame. We have adopted the same plan for our hive frames, and now make them stronger than a nailed frame.

Friend Bolin has lost a few swarms of his bees then. We knew he wouldn't sail through this hazardous life of bee-keeping without now and then a little bad luck. But who would have thought that friend Bolin had the "constitutional weakness" of standing with his hands folded, when his Waterloo was perhaps before him.

Now, Friend Novice, don't go for chaff too strong. *We* fixed a swarm according to Townly. He said take a medium swarm and we did. We put a new quilt over the frames and packed chaff all around, not a foot on top, but about 9 inches. They wintered well, but dwindled in the spring; perhaps I should have put on bags and more chaff.

J. H. MARTIN, Hartford, N. Y., June 5th, '76.

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## YOUNG QUEENS SWARMING OUT, AND THE REMEDY.

YOU will oblige me *ever so much*, by giving me your attention five minutes. I have 5 fine young Italian queens a month old, raised in *full* colonies of black bees—no drones except in four or five Italian colonies—and when they come out, the bees (a half bushel) will follow, filling the air so full of bees that the queen fails to find drones. They settle as usual for swarms, and are returned to the old hive to repeat the next day. Now, what am I to do? I have a number of young queens of the same age, that are laying, but not one of the colonies followed them out. D. B. TEAGUE.

P. S.—Is it not encouraging for a large yield of honey this season? I have taken from 25 to 40 lbs. each, from several hives, and a splendid article too.

D. B. T., Bradford, O., June 12th, '76.

The remedy is to see that unsealed larvæ is in the hive at the time the young queens make their excursion. This will give them something to do, and keep them out of mischief. Full colonies seldom swarm out in this manner, but nuclei very often. Put a comb of eggs in the hive, when the queen is 5 days old, and there will very seldom be any complaint of the kind. We infer that in your case, you inserted queen cells, and that they were so long in hatching, the brood was all sealed up. As the young bees had nothing to do, they concluded they might as well go out and see the world, as to stay at home. With the lamp nursery, we get the young queens fertilized while the hive is yet full of unsealed brood.

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Lamp nursery and introducing virgin queens proves to be a success with me. Hatched and introduced seven on the 5th. At 4 o'clock this morning found six crawling about in the nursery. Have introduced 13 without a single loss. Have nine cells in the nursery now, which will have to be taken care of before night. We are having a splendid yield of clover honey, have extracted 400 lbs. and about 600 more ready to take out.

A. W. WINDHORST, St. Charles, Mo., June 9th, '76.

Besides the nursery mentioned above, we have sent out a good many this season, and would be very glad to receive reports from all of them. Also please give us full reports of the working of the foundations, and other implements. It is only by comparing the experiments of many, that real progress is made.

* * *

A SUBSCRIBER proposes that we should give diagrams and descriptions of all the principal hives in use, as we have of the frames in use; but our reply is that we should thereby complicate the subject ten-fold more than it now is, and we are roundly taken to task as it is, for having so much to say about things that none but an expert can understand. When the busy season is over, we will try and give, in a general article, the desirable points of all the hives in use, as well as some that it seems impossible to combine in one and the same hive.

* * *

IN one or two cases we have been told that reports of large yields of honey were not given honestly. We hope our friends will be very careful to make their statements a little less, rather than beyond the actual facts. Wherever we have good evidence that any statement furnished us is really false, we shall show up the offender unhesitatingly; but it should be borne in mind that yields of honey are many times so unaccountable to the uninitiated, one should hardly blame them for thinking and saying unkind things. Besides, two persons may give statements very unlike, and yet both utter nothing but the truth. Where reports are very extraordinary we are generally pretty careful to find out who it is that makes them.

## OUT-DOOR WINTERING, MICE, ETC.

I WINTERED 54 out of 58 swarms; they are in good condition. One of them sent out a swarm with a virgin queen a week ago; I examined them to-day and found the queen had just commenced laying. The old stock also has a laying queen and three queen cells started; two, containing small larvæ and one sealed over. They are Italians and I should think, a little foolish. I have another stock on which I left a set of partly filled honey boxes all winter, and to-day I noticed that they were putting honey in the old combs. Drones are out from nearly all the hives.

I use the Langstroth hive with roof not fastened to the cap, and winter thus: get your stocks strong in young bees and honey, put on the quilts, fill the caps with fine dry straw, leaving the roofs ¼ inch above the caps. Place a weight on them to prevent their being blown off, fix the entrance so that mice can not get in, then give them a thorough letting alone. S. H. HOUGH.

Rootstown, Ohio, May 17th, 1876.

Although the saving of 54 out of 58 is nothing unusual, it *is* quite unusual to get swarms as early as May 10th, in this vicinity; and we are much inclined to give, at least a part of the credit, to the straw covering. It seems the yield from fruit blossoms has been quite unusual, and reports to that effect were received all the way up from the southern states. It is pleasing to note how a flow of honey gradually creeps northward; and so invariably does it come, that we have learned to expect it as a matter of course. Today—June 2nd—we are told the clover yield in Cin. was never better; therefore we understand that we are to be prepared for it here in about 10 days.

We have never until this season, realized the importance of having hives mice proof; but after the number of combs that have been cut to dust besides the honey consumed, we have determined hereafter to have all entrances so that however much they may be enlarged, no mouse can ever get in. If the bees have as great an antipathy as we, to the peculiar oder that the mice leave, they will certainly thank us for making the entrances a little more exclusive. The old Langstroth hives as usually made, allow them to go in at will during the winter, and it is these that give us most trouble. The entrances to the Simplicity and hoop hive, have always excluded mice so far, and if the matter is borne in mind when hives are made, they can easily be kept out. The complaint has been a very general one, owing we suppose, to the warm winter. If the entrance slot in the L. hive, and all others, be made not to exceed ⅜ of an inch, if we are correct, mice will never get in.

## OUR 18 YEAR OLD BEE-KEEPER.

I HAVE *springed* my bees according to the plan recommended by G. M. Doolittle, I think, and it worked nicely until honey began to come in fast, when the bees would fill the empty combs I put in, with honey, before the queen could fill them with eggs; but having an extractor I fixed them and got a nice lot of apple honey. There are drones nearly ready to hatch. I swarmed our grape vines (*a la* Novice) and have a nice lot arranged hexagonally. What I wanted to know in the May No., was how a wind-mill was made to turn *any* machine. I should think if a balance wheel were used, it might stop on the center and consequently break something.

I had one objection to Italian bees, viz., when fed with syrup, if they can get into it, some of them are sure to drown; while black bees are afraid of getting their feet wet. But dry sugar works all right. I want to try the comb foundations but don't want to pay as much for them as the combs will be worth when built. I will send you a block and punch ,for putting frames together, such as I use. I made the patterns, took them to the foundry and got some made.

I will subscribe to what is said under the head of $1,00 queens, having a daughter of an imported queen whose workers all show three yellow bands; they don't have to be podded out with honey either, and four bands can be distinctly seen on some of them when they are filled. I have the eggs already laid for the first lot of cells, and expect to have laying queens by the middle of June.

LLOYD Z. JONES.

Galva, Henry Co., Ills., May 23d, '76.

There are two kinds of wind-mills, friend J.; those arranged for power, and those for pumping. The former have no cranks at all, and we fear it would be somewhat difficult to apply the power to buzz saws, if the mill is built for pumping. We think you are right about Italians getting into honey or syrup; our neighbors speak of feeding in a pan or box, with only grass or shavings for a float, but our bees die in considerable numbers when fed thus. Many thanks for the new block and punch for putting on corners; but although they do the work perhaps a trifle quicker, the having extra implements to handle, we think more than counterbalances the advantage; at least that was the decision in the work shop. Very glad indeed that you too have found the $1.00 queens a good investment.

## SO MANY NEW THINGS.

NOW you have gone and done it again! Got up a hive that is better than *all before*. But you tell us not to buy unless our bees have earned the money. So far all right, but is it right to just keep tempting us *poor fellows* with something *just a leetle better* all the time, so that there is nothing left for the *Blue Eyes*, even if we do make the bees pay for all the *traps* your ingenious brain can invent?

Notwithstanding all the rain last season, our bees managed to get a little buckwheat honey (extracted) to spare. It all sold for from 18⅓ to 20 cts. per lb., and after paying for those frames, there is a little left. As I want to see *all* these new traps find enclosed, etc., * * *

J. J. WHITSON.

Valley Mills, Marion Co., Ind., Feb. 9th, '76.

We are very sorry indeed to have made so many changes, but the latter can hardly be called a change, as it was only a compromise with the styles of frames already in use, and as they cannot be merged into one, we have tried to have the exterior case or shell, made one and the same thing for all of them. The result to be attained, and in fact that has been attained, is that all of the 6 different frames can be put into the same shell, have the same cover, the same quilt, the same bottom board, the same entrance, the same surplus boxes, and in fact the same hive except the frames. Now if all could agree on this outer shell or case, we might go to work unitedly to improve and even beautify it. If the united talent of our bee-keepers could be concentrated on one hive, we ought to get up something pretty near perfection. Now to thus work together, we do not want to tear down, but to suggest or add to. If the hoops as we have made them are too light, make them heavier; if you prefer a body made of whole boards, make it thus, but let us preserve the uniformity of dimensions if we can. If this were once well started, some large manufacturing firm could make hives by the thousand at a very low price; and if desirable, the frames could be put in after ward as the taste of the owner might dictate. In the matter of honey boxes alone, if a uniform size could be agreed upon, the saving would be immense. Friend W. we thank you for your caution, and are firmly determined that none but a most weighty consideration shall ever lead us to think of any other frame than the L.; if we are to furuish hives, we certainly shall adhere to the one that takes any frame that may be ordered. Our object now is to improve that one in every way possible.

## A HOME MADE HIVE-WALL-HALL.

ON page 32, VOL, IX, A. B. J., friend Peirce gave a plan for building a number of hives all in one, that seems to be pretty nearly the hive-wall-hall of Prof. Vogel. The following letter gives something of an idea of how it has answered for the past 3 seasons.

Last summer we had no surplus honey, and only good swarms gathered enough to winter. I tried to increase my stock to about 20 by feeding, but nearly all my young queens were lost and feeding did not seem to induce them to breed, so that though I had 19 or 20 queens in the fall, more than half had few bees. Some had worked in my long hives, but mostly in single 9 frame hives. The full colonies I left with the number of frames they had, the small ones 4 or 5 frames each, separating them by wire-gauze frames, and covering top and sides with quilts. I had 9 colonies this spring, as in all cases when two or three small colonies were alongside each other only separated by the wire gauze, they had united over the tops of the frames under the quilt into a single colony. All are in good order and strong; as they had plenty of honey, I did not feed at all as I had begun to doubt its utility except as a matter of necessity. As the colonies were strong, a good deal of honey was gathered from apple blossoms. May 20th as white clover began to open, my strongest colony swarmed leaving 13 frames brood and 3 besides filled with honey—I put them into a 9 frame hive, 9 frames empty comb, and in a day or two put on a 40 lb box with 5 frames comb and two empty frames—Tuesday 30th. the frames above were full and partly sealed—I put on another box of same size, having 4 empty frames, upon which they are now at work. I ought to have given more room for brood, but it wasn't convenient at the time, and I have little leisure to give my bees proper attention. I have been able to prevent swarming of late years by giving box room as fast as needed, but with the present abundant white clover bloom (unexampled for 15 years), I don't know whether swarming can be prevented. I think my 12 ft. hives for wintering by filling in as described with chaff, cut fodder or any dry non-conductor, and then covering each colony of six to nine frames top and sides with quilts, makes the best arrangement I have ever tried, and the best perhaps there can be for this climate and latitude. The filling in of the walls of the hive remains permanently. The bees are dry, warm enough, and can fly when warm enough outside, require only moderate supply of honey and in a spring of all kinds of weather, they are not soon affected by any change. Single hives in the honey and swarming season are more convenient to handle. J. H. PEIRCE.

Dayton, Ohio, June 2d, 1876.

Desirable as it may seem in many respects, we fear the idea of building the hives all in one, will never be made to answer. However, after expending so much money as we have on the house apiary, we are going to give it a further trail, and shall perhaps try covering the hives with chaff, another winter, or rather pillows made of chaff so that they can easily be removed when the surplus season comes. At present, the hexagonal apiary as described in Vol. I of gleanings, has given the best results, and is open to the fewest objections of any plan yet tried. It is not expensive, and can be built up little by little to suit the growing needs of any cottager, and can be developed to thousands of colonies if desirable. The crop of grapes will more than pay for all the trouble and time spent in keeping the vines and grounds in the neatest and tidiest trim. If by chaff covering or other wise, we can be enabled to keep the bees located permanently the year round on their summer stands, we think it will be very desirable. Make a good hive just as, and just where you want it, and then let it alone.

## OUR OWN APIARY.

AND it is June once more; to-day is the 7th, and now the house apiary and every thing else is flourishing. While warm weather is the rule, and cool the exception, the house apiary is very fine, for it is much warmer nights than the open air. When cool is the rule and warm the exception, it don't answer at all. However, chaff may fix even the house apiary, and so we are going to try once more. Only 10 colonies are left in it now, and two of these are colonies that were moved into it entire, when it was first built. But one is left on the lower tier on the north side, and that very weak; 4 are left on the upper tier. On the south side, all but one are gone on the upper tier, and 4 remain below. From this it would seem that the points of the compass make but little differance. As the old colonies, or those that were full when put in, came out best, it may be that the loss was somewhat owing to having so many on new combs, and that were built up last fall. It seems that an impression has been given that we let them *all* starve; this is a mistake, for certainly not more than a half dozen of the 26 lost, died of starvation. When we took out all the combs, we found heavy ones in many places at the back part of the hives. The honey was in one part of the hive. and the bees in another. Very likely the artificial heat caused much of the trouble, and hereafter, if our bees cannot keep *themselves* warm, they will have to get cold, for we have no more time for any such fussing.

If the institution is *not* good for bees, it is a most beautiful invention for moths, for as there was no freezing inside the house, the eggs of the moth were not killed, and day before yesterday we found that minute worms were starting webs finely in our best worker combs. From the exerience we have had, we should think they would in 48 hours more, have damaged combs to the amount of $50.00; but we were up early in the morning this time and were on the watch for them. In a couple of hours the three hundred combs were carried to the bee-house—it was a pity they didn't *all* die, for we could then have fumigated them in the house apiary just as nicely as could be, without even disturbing a comb—a roll of sulphur was put into a kettle of coals and before noon every web had come to a stand still and its architect was, much to our satisfaction, in the cold embrace of death. Poor things, it seems a pity their zeal could not be turned in some useful direction, like that of some other folks. Where are our anglers? See page 27, Vol. I.

Now, when we found that all these 300 combs must be quickly moved to the other building, the problem was, where to put them, or hang them up rather. We could put up poles it is true, but we have of late, such a horror of any more traps to be moved about, that we dislike bringing a single bit of board into the apiary. After a little "cogitation," we looked intently at the division boards and finally stood the first one in a corner of the room and another at the right distance to hang the combs on them; then another and so on, the length of the room. When one tier was completed another was put directly over it, and thus we had them all compactly arranged in a small space, yet not touching each other at all. And best of all, when a visitor comes in, the appearance presented is not untidy.

*9th*,—The Universal section boxes are just beautiful, and it looks now very much as if the combs would be built straight and true on the wooden bar, without any guide of any kind; for the wood top bar furnishes a much more inviting place to start combs on, than does the quilt that covers it. At present we cannot give a very flattering report of the manner in which the foundations were designed to be fastened in the frames. The trouble is that as soon as they begin to draw up the walls the comb is stretched as it were, so that it bags or bulges. It looks very much now, as if the foundations would have to be attached by the top only, allowing both sides and ends to expand as much as they may. After the large quantities we have sent out, it seems strange so little is known about the best way to use them. The paraffine and burgundy pitch, have not proved a success after all; but one lb. of home-made yellow wax will temper *three* lbs. of paraffine making it work beautifully, while if we use the best white wax—at least such as we buy for absolutely pure wax, of the wax bleachers—we are obliged to use *two* lbs, of wax to one of paraffine.

*June 14th*,—Yesterday we had but 48 colonies, and one of those queenless. It is true, we did get down so low as that; the last four became so small that they lost their queens, and then we doubled them all up into one. They kept on dwindling until after other stocks were working in boxes. Nearly half the remaining 48 are but nuclei, but they are at work on the clover finely now, and to open up the season's campaign, the Quinby hive sent out a rousing swarm to-day. Now, even after this swarm was hived and had sent to the field more workers than any two stocks in the apiary, the old hive kept on at work, with almost the same force as before, for they had been for a couple of days rather inclined to loaf on the front of the hive. Before swarming, they stored perhaps 50 lbs. in boxes, and there are bees enough left to keep the work going right along. What do you suppose an apiary of 100 stocks like this one would amount to? and this is the Quinby hive that we have tried 4 seasons, and heretofore, unsuccessfully. Although our esteemed friend who invented it is departed, his works bid fair to keep him in kind remembrance many days.

We have made and sent our friends 100 lbs. or more of the foundations, but fear a part of them will not prove satisfactory. We hereby notify them to send in their bills for damages, if such is the case, and we will either pay them or send them better ones. The burgundy pitch was discarded because it required so large a quantity as to darken, as well as to communicate a perceptible taste to the paraffine. A small amount of yellow wax—1 part in 4—will temper the paraffine so that it works beautifully; but with the white wax bought for perfectly pure, of the wax bleachers themselves, we are obliged to use *two* parts of wax, to one of paraffine. This looks very much indeed as if the white wax, were *not* wax, but it may be well to exercise charity, for the bleaching process certainly raises the melting point, and *may* likewise change its tenacity. Well we were going along beautifully, putting pieces into the hives meanwhile, which worked as nicely as could be desired, until our very hot weather of the 13th and 14th, when we were alarmed to find the cells stretching themselves downward into ovals instead of hexagons, and it was really amusing to see the troubled look on the countenances (?) of the young bees as they surveyed the work, after repeated attempts at patching up and repairing. The sight of their discomfiture created some merriment among our juveniles, but we gave a faithful promise to the bees, which same shall be extended to our patrons, that hereafter they should have material that would stand a degree of heat fully equal to that of yellow wax at least.

We can get pure white wax for 50 cts., and foundations made of this will doubtless answer every purpose; but unless the paraffine can be worked in we cannot well make the price less than $1.00 per lb., whereas if the paraffine can be made available, we hope to be able to furnish it in quantities, as low as 50c.

Many are the questions asked in regard to the best way of fastening them in the frames and boxes; as yet, perhaps no better way has been devised than the one we have several times given, viz., making a board that will slip inside the frame half way, and after the sheets are laid in this, fastening them with a hot wire, or brushing melted wax along the edge. With our sections, the board can be omitted, and the edges along the top bars of the sections, and the outside ends, are all that need cementing.

*16th*—Further experiments show that one part of yellow wax to three of paraffine is so nearly white that it will probably never be distinguished from that made with white wax; and the melting point is so high, that they will stand safely, exposure in the sun that natural combs would not. If the matter can be arranged so that we can use one article for both brood and guide combs, it will save considerable trouble; and when we get over the present rush, we hope to furnish this article for 50 cents in quantities of 10 lbs. or upwards.

17*th*—So many have asked for foundations as thin as we could make them, both on account of the saving of expense per square foot as well as to have them light for comb honey, that we have, we think, erred in that respect. As they work in our apiary, we think about 4 sq. feet to the lb., about what is wanted; in that case there is much less liability to bulge or bag, and at present there seems to be a decided advantage in favor of having the sheets fill the whole section frames.

20*th*.—Instead of our own apiary, perhaps we should say our own— well, bee-hive. Orders for extractors didn't stop, but came faster; the section boxes too it seems have proved a success,and ever so many of them were wanted, and the worst of it was that our friends only discovered that they wanted them just as the bees were ready to use them, and then the foundations proved a success too, and to cap all, our bees filled their hives at a time when it would have been madness on our part almost to have thought of extracting; and as our customers were clamoring for section cases that we had not, of course our bees could have none. As for the bees, we gave them upper stories and empty combs, and if we don't have enough to keep them from starving, next spring it will be funny. To be sure we have hired more hands, but as the business is new, and much of it of a nature that makes us green hands as well as the rest, is it any wonder that in spite of us, orders could not be sent as promptly as usual? We all did our best, the windmill included, but the press was too great, and a steam engine had to be called in; if you don't think we are a bee-hive now, just take a look at us.

It is true we might have written some of you, and told you what to expect; but with looking after new hands and the like, we didn't find time to even do that as we should. To make all satisfactory we will tell all such to send bill for damages, bother and all, and we will pay it; even if it include swarms that went to the woods, as far as we were responsible. Why, we haven't even had a look, this season ,at our basswood orchard, and are told that the alsike clover is just alive with bees, but we haven't even seen them once. We fear we have not yet grown big enough to deserve the confidence our friends seem to have given us, but we shall try hard, and we hope by the time this reaches you to be able to give you every thing in our line as soon as your money is in our post office.

The swarm that came out to-day, clustered on the same tree, and on the same limb, as the one that came out several days ago. Why do they do this? As we do not keep things prepared for swarms, we first found the queen in front of the hive, found her by the movements of straggling bees, caged her and tied the cage to a bush from the tree on which they were clustered. We tied the bush, cage and all to a common rake; the rake was stuck in the ground as near as it conveniently could be to the tree on which they clustered, and a hive prepared where we wished them to stand. Of course the bees were all clustered around their queen on the rake head, when wanted, and it was a very easy matter to carry them where we wished. They were gently laid in front of the hive, the queen released, and that was all. Is not this course less trouble than climbing trees and sawing off limbs?

# GLEANINGS IN BEE CULTURE.

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A. I. ROOT.
EDITOR AND PROPRIETOR.

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## MEDINA, JULY 1, 1876.

"Consider the lilies of the field, how they grow. they toil not, neither do they spin: And yet I say unto you. That even Solomon in all his glory was not arrayed like one of these."—Matthew, vi, 28, 29.

◆

BAKED apples and bread and milk are out of season, but we get along very well by using strawberries sweetened with new clover honey in place of the apples. Too bad, isn't it?

◆

AT present writing—June 23d—it looks to us very much as if it would pay to have the foundations fill our section boxes complete. It then requires no cementing at all, and the bees commence working on them beautifully. About four sheets 12x18 inches are required for a pound.

◆

KEEP a green bush tied to the teeth of a common wooden rake, and a queen cage tied to the bush. When the bees swarm, catch the queen and put her in the cage, then hold her up among the bees, or fasten the rake near where they are clustering, and your swarm is in very convenient shape to handle. Your wife can do it all, after a little practice.

◆

TWO more colonies have actually dwindled out in the house apiary, and they have done it too when those out doors were actually sending out rousing swarms. Now if our house apiary is the only unlucky one we should be glad to know it. We have before asked for a report of the wintering of others, and especially of the one built by Mr. Coe, in our vicinity. Are we not to have honest and candid reports of failures as well as successes?

◆

SOME one complains that the Universal section box does not fit *inside* the Simplicity hive. They are made to rest on the top and not inside, the ordinary cover and quilt being raised up and put over them. If they were put inside, we should be obliged to make hoops different from those that form the body of the hive, and we should not have as great an amount of room for surplus boxes or sections. Our bees have at this date—June 20—filled them clear to the outside sections, and the sight of a whole case of 30, filled and capped over, is encouraging we assure you.

We were sent the necessary shipping cards from the Centennial, for our hive and extractor on the 12th of June, and were very coolly informed that unless they were on hand by the 14th, they would not be received. Now we are altogether too busy to waste our time or money, in chasing after——we would like to have the sentence ended pleasantly, but it don't occur to us just now, how to do it.

A case of section boxes is now filled and capped over in about a week, when filled with foundations; and our grocery-men pronounce the universal section box ahead of any package heretofore seen. Of course they are to be given away with the honey, and the wood looks nearly as clean and nice as when first sawed. We would suggest that the boxes be not put together until wanted to put on the hives, and that they be left in the original bundle, that they may be clean and bright when put into market. We sell them at 25c per lb., box and all, extracted at 16.

Our better half catches a queen when the bees swarm, by turning a glass tumbler over her. As soon as she climbs up on it the tumbler is held over a queen cage, and she very soon slips off the glass into the cage, and is all safe without risk being incurred in handling such tiny morsels of royalty. We have not yet quite discovered whether she fears they will sting, bite, or take some perverse notion to die, if she picks them up in her hands as we do. At any rate she is getting to be quite expert at the business as she has not failed in a single instance.

It seems almost incredible that a good 4½ power steam engine all complete can be made for $300.00, yet we sent a check for one on Monday morning, and had it running all our machinery on Friday of the same week. But about 3 hours work was required to get it into our cellar and have it all ready to fire up. It gives us far more power than we need with 40 lbs. of steam, and we frequently run our saws on light work, with 15 lbs of steam only. The cost of fuel cannot exceed 25c. per day, but we use sawdust and refuse mostly. It is the Bookwalter, made by James Leffel & Co., Springfield Ohio. See advertisement.

When we arranged our table of prices on our extractors, we took it for granted there were no frames in use exceeding 14 inches across the narrowest way, nor exceeding 20 inches—projections on top bar included—the longest way. But this was a mistake, for we have been obliged to make machines to order several times of late, at a considerable additional expense; and in one case we found a frame in use 22 inches in length. Now we have no objection to making these extreme sizes, but as 20 inches is the extreme length of a sheet of tin, we shall have to charge $11.00 for machines with frames longer than this, or wider than 14 inches the narrowest way.

Three colonies are now working on the foundations beautifully, in glass boxes in the house apiary, but they are two or three weeks behind those outdoors. It is a beautiful thing to show to visitors, but for practical work, we, like the bees, prefer the open air. Our imported queen has until now been an inmate, but the business of sending out larvæ has required that the hive be opened so much, we have moved her out-doors again. The great trouble in opening hives is that the young bees insist on returning the same way they went out, and ordinarily they find the entrance without trouble, but in the house, we can get them out-doors it is true, they would never get back into their own hive in the world.

Not a single favorable word has been received in response to our inquiry if any one who had purchased gloves, had found them of value in the apiary. Now if those who advertise them know they are of no practical use, or even if they don't know any thing about it, it is time for those who *do* know, to speak out. Beginners are writing to us every few days, to know why we too, do not advertise gloves, and several have sent us money; our reply is, that we offer nothing for sale that we have not tested and approved. Rubber gloves at $2.00 are——very taking to the uninitiated, and unless those who have paid out their money for them, in good faith, can some of them give a favorable report, we shall feel it a duty to put rubber gloves in the "Humbug & Swindle" department.

*June 26th*—Our bees did swarm on Sunday after all. One came out just before church time, and was clustered on the rake as usual; the other came out while we were away at our mission Sabbath school, and our 14 year old hopeful, under the incentive of a whole dollar that had been promised him, hived the largest swarm of the season. It came from the hive belonging to Blue Eyes, and the little folks felt considerably elated at the feat they had performed. Master Ernest deemed it his duty to hold the rake nearly a whole half hour while they were clustering, but we have discovered that it is just as well to hook one outside tooth of the rake over a limb of the tree on which they are clustering and let them take their own time in finding where the queen is. Be sure that enough have found her to set up a call, and you are all right. They can be laid in front of the hive as quietly as you wish, and as you open the cage, make sure that she goes into the hive, and then you are all right.

Our new swarms when supplied with empty combs, get their hive full and begin to cluster out in about 4 days. In about as many more, they have filled the second story, and as our friends will give us no time to think of extracting, we just keep adding stories of empty combs, or frames filled with foundations.

It is our opinion, that even the most extravagant have failed to appreciate the value of the foundations. We have tried to induce a few stocks by way of experiment, to start without in the section boxes, but those supplied with them, will have their boxes full and partly capped, before the others will have fairly commenced. Full sheets of comb put in the upper stories Saturday night, were raised into combs and heavy with honey Monday morning. During very hot weather, the sheets of pure white wax are bulged to some extent, but not near as badly as with the paraffine. We shall at present use only the pure white wax; yellow wax, seems almost as objectionable as the paraffine. Perhaps we may be able to get the cells raised satisfactorily during cooler weather. The foundations sent *us* by Mr. Long, were evidently pure wax, and we have had as yet but one single complaint of his failing to fill orders, and that was for a very small amount.

*27th*—Hurrah for chaff! The Quinby hive has sent out a large second swarm. The rake, bush, and queen cage answered to hive them as well as the others, for the scent of the cage that had held so many queens, induced them to cluster on it when held among them without trouble. This swarm also clustered on the same limb of the same tree as did our first swarm of the season; can it be that it is the wonderful influence that pervades the spot where the queen has once rested, that thus attracts them? Several severe rain storms have drenched the limbs since.

Don't let your bees "roost" on the outside of the hive, under any circumstances. Give 'em more room, and dip them into the boxes with a spoon, if you can't do any better. They will take the hint.

## CHAFF.

BY J. H. TOWNLY.

THE result of your "experiment" with chaff is about what I expected; but, keep cool, don't get excited, one swallow does not make a summer, neither does a single success prove that one will *always* succeed. Mr. Quinby was for a great many years so successful in wintering bees housed, that he rather boasted that if he could have the privilege of selecting his stocks he would not lose to exceed one colony in a hundred, and yet if we are correctly informed, his percentage of loss five years ago was as great as our own, and our loss was so heavy (35 out of 50 stocks) that we were ashamed to own it. That was my first experience in packing bees with chaff. I had 5 stocks, with chaff packed on two sides and over the top, and saved them all, although some of them were quite weak in the spring. The next winter I tried 16 in same way and saved 11, while I lost 20 out of 34 wintered in other ways. In '63 I bought dry-goods boxes and packed my bees in them, from one to four hives in a box, and lost but few bees; I was so well pleased with it, that in '64 I made boxes expressly for that purpose, a box for each hive, and wintered my bees in them the following winter with but a trifling loss, and that loss could be traced to other causes. Most of my bees were wintered in the same way last season with equal success. I have had no spring dwindling in the yard in three years. I care not how bees are wintered, whether in cellars, houses, or boxes, to *always* winter well they must be kept warm and *dry*.

If on some cold, freezing morning in April you had looked at the interior of your Quinby hive, and then at your *best* one outside, not packed, you would have been still more surprised at the difference between them. In fact "springing bees" packed in these boxes is just where "the laugh comes in." In March 1875, I took a few of the largest stocks I had, out of the chaff and left them out; in June they were the weakest ones I had.

Are you to be jury or judge to decide the question as to whether king birds do or do not eat bees? If so I fear you will have to decide it in the negative; although there are probably hundreds of bee-keepers (myself among the number) who have seen king birds catch bees in the spring, weeks before drones made their appearance, and all through the summer months, before six o'clock in the morning, and after six at night; and who have also seen them on rainy days, sit on the alighting board and pick worker bees from the entrance to the hive. Yet there are thousands of others who have not seen it, and the balance of the testimony is in the poor bird's favor.

Tompkins, Mich., June 12th, '76.

I notice that you are enthusiastic over the Townly method of packing bees for wintering. After reading his article requesting you to try one swarm that way, I wrote to him about it, and he sent me full particulars in regard to his manner of preparing and packing. I packed four colonies and left them until about time for fruit blossoms. They all came out in splendid condition; hardly a dozen dead bees, and they swarmed several weeks sooner than last year. Tho' perhaps the winter might have had something to do with it. A year ago last winter I packed in straw without the boxes and lost half in spring. It is quite a task to make the boxes, but if they succeed in a very cold winter, like the one before last, it will pay.

S. H. MALLORY, Decatur, Mich., June 15th, '76.

## COMB FOUNDATIONS.

ALLOW me to thank you for your promptness in forwarding me my comb foundation machine. The workmanship is a model of perfection, it works like a charm. I have made a large quantity of the foundations, and will make up wax for half in the mean time until further notice, or 75c per lb. for the foundations. As you have made some very important improvements on my machine over Perrine's and all others, I think I will get the Canada trade, while you are entitled to that of the U. S., especially when you sell cheapest. I can fasten the foundations in the frames very fast and easily, with a knife (a putty knife is best); lay the edge of the wax on the top bar then with the putty knife press it hard on the wood, wetting the knife occasionally to prevent the wax from sticking. If the wax and frame are not too cold it can be fastened faster and stronger than in any other way.

My bees commenced swarming to-day, June 16th, contrary to my wishes, as I wish to run that part myself. I will now commence removing brood to prevent swarming and insert empty combs or *foundations*. Bees are doing finely now, and we expect a good honey season. Many bees died here in winter and spring. Mine wintered finely, but I never had so many queens die as this spring. A great many old queens died before I had drones, so I had to double up with others to save them. I am experimenting with other material for comb foundations and hope Mr. Editor you will continue your valuable experiments and give us the results in GLEANINGS.

I have to pay 36c for wax and 26c for paraffine. I put in some full frames of one-half wax and one-half paraffine; the next day was very warm, 94°, and they sagged down. I think there should be something to toughen them. The sample you sent me from the Perrine machine was a deeper cell and a thicker, higher wall. Would the wax not leave the rollers with that depth of cell, or why did you make mine so shallow?

D. A. JONES, Beeton, Ontario, Can., June 16th, '76.

We have been much troubled with the bulging of the combs, and at this date—June 22d—it looks very much as if we were going to be obliged to use white wax entirely, to get rid of the trouble; pure yellow wax troubles a good deal, and even ⅓ paraffine does not work well in very hot weather. We are determined to have them all right, and for any weather, but if we can use nothing but bleached wax, we cannot well make them less than $1.00 per lb. We have now decided to ship them in boxes of 1, 2, 3, 5, 10, and 25 lbs. each; and as these boxes are made expressly to hold sheets 12 by 18 inches, we hope our friends will order in the above sized packeges. If wanted by mail, add 25 cents per lb. as we are obliged to furnish a box that costs us about 10 cents, and the postage on it is about 15 cents, it is rather up hill business sending a single lb. by mail. The package and postage costs us about 41 cents yet to avoid complication we call it all $1.25 by mail, or $1.00 per lb by express, and warranted to please; if it don't, return it at our expense. The thick and high walls such as the machine that we sent Mr. Perrine made, do not suit the bees as well as those we make now. It seems they do not admire having too much of the work done for them. We do not wish to receive orders for anything smaller than 12 by 18 inches, because we wish to have the goods boxed, ready to be shipped without requiring the personal supervision of Novice on each individual order when the bees are swarming at the rate they do to-day. Please don't order less than 2 lbs. when you order by mail, if you can avoid it. We pay 50c for white wax, and 18c for paraffine.

# Heads of Grain,

## From Different Fields.

By knowledge derived from GLEANINGS, and my own judgment, I have transferred 8 swarms from old box, to movable comb hives; and through carelessness, being unaccustomed to such work have lost two queens. While the bees are rearing new queens they are filling the brood chamber with honey, and in order to give the young queens room to do their work, when matured and fertilized, I will have to extract that honey. I must therefore have an extractor.

DAVID WARDWELL, Arlington, Ohio, May 16th, '76.

I received the extractor in good order, am well pleased with it. It caused some excitement in the family, all wanting to see it work. My son-in-law said we must have some honey for supper, though after 5 o'clock. It worked very satisfactorily.

DAVID WARDWELL, Arlington, Ohio, June 3d, '76.

I have a few hives full of nice combs, honey and bee bread (the bees left them last January). Can I put queens into these hives, remove strong colonies and put these hives in place of the colonies that I remove?

VAL. D. URICH, Myerstown, Pa., April 25th, '76.

The plan answers very well, but is not the best economy, for the old stock is robbed of all its foraging bees, and the new one is given none other. Some brood combs covered with bees taken from the old stock will be a better way, and in this case the queen need be caged but one day—sometimes not at all. If the combs of bees be taken from several colonies, you will have the popular way of artificial swarming.

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I read the GLEANINGS that you sent me and think it one of the most interesting books of the kind I ever read, and I have read many. I read till one o'clock at night. Do you hear any thing about the "Combination movable comb bee house," as in use by H. Herman Flick, Lavinsville, Somerset Co., Pa.?

E. M. FORD, Lunborg, Pa., June 2d, '76.

Really friend F., we shall have to hold on if you are going to sit up nights to read. Bee-keepers should rise and retire with the sun—especially the rising part—and keep "cool." Mr. Flick is the man that sells "ambrosial honey," and advises his patrons to drink whiskey when they get stung, for which receipts he charges $2,00 and something. And he owes us the $2,00 that we sent him yet, and won't pay it back, yet he promised to. See "Humbugs and Swindles", Vol, I, and II.

I have taken 7000 lbs. honey already from the 127 hives, and still it comes.

R. WILKIN, San Buena Ventura, Cal., May 27th, '76.

Yes, I'll take $10,00 for Vol. III, GLEANINGS, to *comfort* your friend, but not $9,99 cents, yet awhile.

J. VAN EATON, York, N. Y., June 2d, '76.

Your reply to my last needs some explanation. The old swarm of bees I have had for some years was a *very strong* colony. Last fall I took off one 20 lb. box of honey and the other box was filled also; but I was so green that I forgot to smoke them and had no bee veil; hence, when I pried the box loose, (it was open at the bottom and stood on the frames) the bees came out very strong and fierce, as soon as I lifted it up, so I let it back to its place, thinking I would try again in a few days, but when I tried the second time the bees had taken the honey from every comb into the hive below. I left this box on the hive all winter and put a piece of carpet over the frames where the other box stood. Therefore they had only to fill the combs, which they did by May 20th. You will remember that I have a pear orchard of 1000 large trees, 3 acres of apple trees, 4 acres of plum trees, and 5 acres of peach trees, all of which blossomed very freely and on all of which they worked constantly. I have 1 acre alsike clover, 4 acres other clover, and 6 acres raspberries, all now coming into bloom. This hive swarmed May 20th; a very large swarm, and they have already made a large amount of comb in the frames, all straight and right. The hive of Italians I rec'd of Mrs. Grimm are doing well, and have all the frames full, and a large amount of brood comb, capped. I think they will give me a swarm. I also expect one more from the old hive and one from the swarm of May 20th, which will be 6 swarms to keep over winter. Now in asking when to put on the surplus boxes, I felt that it was not right to do so at once, but whether to wait until the frames were full of comb or not, I was uncertain, thinking perhaps they could not deposit in boxes if I waited for all the frames to be filled. Hence I wrote you. My Flander's hives I have altered into the Langstroth with 8 or 9 frames, and my Kelsey hives I cut down, using the Langstroth frames, so that I have a good supply of hives—all the sam sized frames, like those I rec'd of you.

A. FAHNESTOCK, Toledo, Ohio, June 2d, '76.

We are very glad indeed to hear you are so pleasanted situated, and doing so well, friend F. You will probably very soon lead us all, at this rate. In hiving a new swarm we would at least confine them to the frames of the lower story until they were well started, otherwise the queen might go into the boxes at once. Keep the quilt directly on the top of the frames for the first week after hiving, or if they have a full set of empty combs given them, they may be ready to work in the boxes in 3 days, if honey is coming in rapidly.

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In Sept. No. of GLEANINGS, I reported season's work up to Aug. 9th. Will state that I sold 70 tested Italian queens, and got 3220 lbs. fall extracted honey, in addition to the 1140 lbs. spring and summer honey before reported. I sold my summer honey to grocers, and others that would buy several gallons at one time, at 12½ cts. per gal. By Sept. 6th, I had taken three barrels, or 116 gallons fall honey, when I quit extracting and doubled all weak swarms letting them fill and seal their honey, as stores were coming plentifully at that time. I marketed most of my honey by taking it on the street in the barrel, and measuring it out by the gallon to whoever would buy. I sold the fall honey at $1,25 per gallon of eleven pounds. Many families would take four, five, or six gallons. So you see it was not a difficult matter to dispose of a barrel of honey. I sold the only two full barrels I tried in that way, in less than six hours each. I looked over my stocks Oct. 20th, equalized bees and stores, doubled to 90 very strong stocks, with one or two exceptions, and let them stand till Nov. 16th, when I put them in a dry dark cellar. D. K.

Napoleon, Ohio. Dec. 25th, 1875.

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Bees are doing well. They keep wanting to swarm; is there any way to keep them from it until after linn bloom? We have the queen's wings cut, and let the bees go back, but they came out again, in a few days.

LEHMAN BROS., Delphos, Ohio, June 7th, '76.

What is a man to do when his bees have by robbing, destroyed or taken the bees from two other hives? Would you put on the upper story, or divide? There is not a drone in sight yet. I transferred all into the Universal hives and took out all drone comb. Would it be safe to make nucleus swarms under these conditions? They have the bottom story full of bees and honey. I have but 9 frames below, could not get the 10th in.

A. WILDER. Sandwich, Ills. May, 22nd.

If we wanted honey, would put on the upper story or boxes; but if we wanted increase, divide. After such a time of robbing however, we should wait awhile before making divisions. It is rather unwise to undertake any kind of artificial swarming or dividing at a season when bees will rob. Put the 9 combs as close together as you well can after transferring, and every time you open the hive, you will find they can be put a little closer, until they are where they should be, viz., about 1½ inches from centre to centre. Endeavor every time the combs are handled to get each piece straight and true in the frames, and you will soon be surprised at their uniformity.

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NOVICE:—Can you tell what makes thin honey stand in small drops on the surface of my box honey? Have had it so several times; sometimes when in the cellar, and at other times when kept in an upper room. My idea is that the honey swells in hot weather and bursts the caps. Am I right? Have seen it only on early gathered honey. A box that took the premium at our fair, had to be put on a hive, for the bees to clean off before it was taken.

J. L. WOLFENDEN. Adams, Wis.

We supposed that it was only in damp cold rooms that these drops collected on comb honey, but we may be mistaken. Comb honey, if we are correct, should be kept dry, and neither too warm nor to cold; freezing especially to be avoided. Cannot some of our "doctors" tell us "what's the matter"? Mr. Doolittle we believe, sells his honey before it has time to be troublesome? How is is friend D.? Do you ever have to fuss with brimstone and other troubles among your comb honey?

Can queens be safely kept any length of time desirable, alone, without a few other bees for company, provided of course that they are supplied with food and kept in a suitable temperature? I notice by Dadant's advertisement that he *winters* 60 queens. Does he find it neccessary to give them company, as above, or how does he do it? Can queens *that have never seen other bees*, be wintered or summered together without destroying one another? The practicability of this last mentioned idea I believe was suggested to me by something I read in one of your papers.

S. R. LEONARD. Wallingford, Ct, Feb. 9th.1876

Queens can only be kept over winter in full colonies, and many of us find it quite a task to do even that. We have kept queens in a cage on top of the frames in the summer time, a month or more, but believe they will not live very long if deprived entirely of bees. We, on one occasion only, found several queens that were hatched in the nursery, on peaceable terms after they were several hours old; but they would probably have killed each other if allowed their liberty many hours longer.

Will alsike clover make as good hay, as good pasture, and stand the winter as well as our common red clover? and is it the first or second crop that matures the seed? I sow twenty acres in clover every spring, and if the alsike will answer as well in other respects, I would like to get it for my bees. E. ARMSTRONG.

Jerseyville, Ills. Feb. 18th. 1876.

A friend at our elbow who has had much experience, says alsike clover makes better pasture, and stands winter full as well as the red, but does not produce as much hay on ordinary upland; although it produces at times extra ordinary crops on low lands that are just suited to it. Either crop produces seed if allowed, but it is not equal to the red as a pulverizer of the soil, as it has no tap root, like the red, running down into the earth several feet.

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Out of 55 swarms put in the cellar, I lost one by carelessly letting it starve. One dwindled, and swarmed out after setting out, and one I packed in chaff and left out doors, and that also dwindled. So I lost only 3; the rest are mostly doing well now.

J. H. MARTIN. Hartford, N. Y.

There! Down goes our *new* hobby! Wonder if it could be that friend M. used genuine oat chaff and did it right? If neither chaff, house apiaries, cold frames, nor *hot beds*, are going to prevent dwindling what are we to do? Bolin won't help at all, but just makes fun about it.

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At 5 P. M. yesterday, I had a rousing swarm from my double cased hive, which has stood out doors summer and winter. and never failed to give me some box honey since 1868. T. G. MCGAW.

Monmouth, Ills. May 22nd. 1876.

There now! Was the space not filled with oat chaff friend M.?

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Rec'd Extractor, O. K. I took ten gallons honey from three hives, yesterday, that gave me four and a half seven days before. G. W. GATES.

Bartlett, Tenn., May 1st, 1876.

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We work our bees for box honey and get it, too. Had 21 stocks in spring a year ago, got 1700 lbs. honey and doubled our stock. Wintered out-doors.

Z. CHITTENDEN, Cheshire, Mich., Jan. 1st, '76.

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How can I best utilize strained honey for which I can find no market?

Feed it to the children and bees.

Is it possible to make it into candy either alone or with sugar? If so how?

Boil it precisely as you do molasses and work as molasses candy.

Which will pay best, feeding it to the bees when engaged in making box honey (worth 20 cts. a lb.) or making it into vinegar worth 25 cts. a gallon?

We do not know; try it and report.

In making it into vinegar how much honey should be used to a gallon of water?

About a pint, see page 156, Vol. III.

Is there any way to clarify impure honey, making it look like extracted honey? J. H. P.

None unless it be to feed it to the bees and then extract it.

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Do you raise the cover of your hive slightly in winter for ventilation? JOHN ANSLEY, Bloomington, Ills.

No. We have not yet learned that there is need of it.

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I have had three natural swarms already, and have plenty more ready to swarm as soon as the thunder storm passes. N. E. PRENTICE, Castalia, O., May 19th, '76.

There is no trouble about sawing large frames for hives, on Combined Power Co's machine as some appear to think, if the machine and saws are kept in good order. I have cut out over 300 sides for section frames like the one sent you, 1½x6½, from half dried cypress, in 31½ minutes from the time the machine started, and it is much more work than from white pine. It would be very little work to cut out the pieces yours are made from.

C. R. CARLIN, Quincy, Florida.

Are Italian bees better honey gatherers than black bees? I have tried both kinds and find the blacks much superior in every respect, with same treatment. Therefore I have gone back to the old kind again. I would be glad to pay any one $25,00 for a colony of pure Italian bees, if they will warrant them better honey gatherers than mine, with same treatment. I have the Quinby closed end frame hives.

H. C. GREEN, Independence, Ohio, Mar. 20th, '76.

Friend G. we have a neighbor who a few years ago, talked almost in the same strain; but not long ago, he said he thought he would hardly care to keep bees, if he were confined to the old black kind. We cannot tell where your trouble is, but there is assuredly trouble somewhere; and your reckless offer, strengthens the idea, that you are feeling stubborn about it, for some reason. Do you suppose the thousands who testify so differently, are dishonest or have never tried both kinds? We have now in our apiary, one of the most energetic colonies of common bees we have ever seen, and are keeping them just to see how they will compare with the Italians. In the height of the apple bloom they seemed to come pretty nearly up to the others, but when clover and locust had just commenced, they were loafing about home or trying to rob, while the others were making a very fair day's work. Again we have to keep picking the moth worms out from under their quilt, while the Italians never think of allowing such vermin about. Get some real Italians, newly imported, not the yellow ones; and you will very soon be convinced—nay if candid, you can be convinced in one hour, by looking through the hives in any apiary.

MR. EDITOR:—In Vol. III, I told you I had made a hive packed with 3 in. of straw, the straw being next the bees. (you thought there was no advantage in such hives) as you are now in favor of packing. I will tell you about it. It is three weeks ahead of all the rest, filled to overflowing with bees and honey from apple blossoms. Drones were flying on the 20th. of May. No loss in wintering, no dwindling in spring; it will compare well with your packed one. But it don't have to be packed and unpacked like yours, it beats any thing I ever had in the bee line. I have wintered in cellar and in pits, but never had one do as well as this. Have made 5 more like this to use this season; the rest are doing usually well. No loss in wintering, nor dwindling this spring. V. MCBRIDE.

Chardon, Ohio. June 1st. 1876.

Bees in good condition and working like little heroes. White clover beginning to blossom. Troubled with a sprinkling of unsealed cells of full grown brood in several hives. GEO. G. SCOTT.

Dnbuque, Iowa. June 1st, 1876.

But we do not know why you should be *troubled*, friend S. The bees know whether the larvæ should be seal over or not, and if they leave them unsealed, you may be sure they are right about it. Perhaps they think they do better thus during warm weather, just as we let the children go barefoot during the summer time. We notice this every season, and never thought it worth mentioning until some one feared they were all dead when found thus. If you cannot take our word for it, keep watch of the bareheaded ones and see if they do not make just as good bees as any.

I have a few hives of bees. I bought a patent two years ago which I don't think worth much. There are about 64 pieces of lumber in the hive. There are two honey boxes on the top of the "homestead," 8 little frames in the "Homestead," a wire screen at the bottom, and under the screen is a moth trap. And there are several tricks about the hive; enough to trick me out of *twenty dollars*.

BENJAMIN GUNN, Alton, Mo., March 15th, '76.

Eggs in 4 worker combs in section boxes in one hive. The only eggs found in combs of that kind. Every hive has part drone comb for guides in section frames, and eggs are found in part of the *drone comb* of *every hive*.

C. R. CARLIN.

P. S.—Part of the worker comb has some pollen in it, and we find it in a few more cells of drone comb.

C. R. C., Quincy, Fla., June 8th, 1876.

If I understand aright your great trouble North is wintering or springing; so far I have never known any trouble here. I now have hives as full of bees as they can be, with from 10 to 15 combs of brood and no honey to gather. Our season is over here by the time yours begins. Would it not pay to ship bees North after the season is over here, leaving the combs here to build up again for our fall yield, and perhaps shipping back in fall to be wintered? Much of our honey here is dark and does not sell as readily as lighter colored. The time in transit would not be 48 hours, and a car load without combs, in light boxes made for the purpose, ought not to be expensive. See if you can glean any thing from this.

G. W. GATES, Bartlett, Tenn., June 10th, 1876.

The idea of wintering bees in the south, and moving northward as fast as the yield of clover honey demands it, we think may some time be made practicable. At present the high price, and difficulties of safe transportation, are obstacles in the way. If one could have a boat properly arranged, it seems if they might follow some of our large rivers with a moving apiary as did the ancient Egyptians. It is a fact that the honey crop moves gradually from south to north; and to illustrate, we mention that by this mail we have with above report, others from about Cincinnati, narrating astonishing yields, the flow being just at its height, while with us here, the clover season has only just commenced. Who will have the floating apiary? Luckily the matter is entirely out of our power, or we might waste another lot of money on it. No spring scales will be needed, for the height of the water mark on the boat, will indicate the number of tons of honey. Just think of keeping in the height of the clover season from March until—can't we manage to work all the way up to Greenland somehow?

MR. ROOT:—Put 13 colonies into cellar. One died of disease. One was too weak. One starved. Actually starved like yours. Another had a drone laying queen. Will never again attempt to winter a colony with a drone queen unless they lost their queen very late in the season. The others were weak when set out. So I lost two more. Cellar was too damp. They are building up fast. Bees wintered well out of doors this winter. I think healthy bees wintered outside need no upward ventilation or very little, but plenty of lower. Does not their instinct say so? Henry Funk, Bloomington, Ills., June 7th, '76.

I have been successful so far, with my Italian bees which I received from you last fall, when I ordered and received my extractor. I have now 25 or 30 good strong swarms of Italian bees from the two frame nucleus which you sent in my extractor. I also have above 300 swarms of black bees in frame hives, which I intend to Italianize this summer, if I can. I have had a better season among my bees than I ever had before; they swarmed earlier than ever before. I caught 13 or 14 swarms of young bees in Feb., and about 91 swarms in March. I have taken this spring 25 or 30 gallons of fine honey and have about 100 2 lb. surplus boxes filled. And now, as June is come and not far advanced I am as busy as busy can be in hiving and catching young swarms from the bees that I caught in Feb. and March, at the rate of 10 and 20 swarms per day; so you can see before the end of the swarming season, I will have a treble increase. I have now up to this date, about 272 colonies, and expect before fall to have about 300 which I think will yield 11 or 12 molasses barrels of honey, and also 3 or 4 hundred of those 2 lb. surplus boxes. They net me at the rate of 30 cts. per lb. So you see it will well pay a man to invest his money in bees.

E. Stahl, Bee-keeper of the city of Kennet, La.
June 9th, 1876.

Of course our friend means that he made the 25 or 30, by the aid of brood from his other stocks. If we only had the time and fewer other cares, how we would like to sell bees. The nucleus mentioned above, was sent in compliance with an urgent request; and all we did, was to make a light case for the two combs of thin pine veneer, two end blocks, and wire cloth for top and bottom; in fact we were obliged to make it small enough to go into the extractor. In opening the hive from which we took the queen, we found her on the first frame, put this and one more into the light case, and that was all. In place of the queen removed, we simply dropped in a virgin queen from the lamp nursery, and she commenced laying so soon that neither we nor the bees ever noticed they had been queenless. The colony is to-day one of our best.

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Bees are swarming in this section, and I hear two-thirds of the swarms go to the woods.

W. Comfort, Tecumseh, Mich., June 12th, '79.

We don't know how our readers feel about it, but when we see a swarm of our finest Italians going for the woods, we feel as if we were willing to go to the expense of a halter for each individual bee. It is hard enough to get bees, without having them take French leave of a body in that way, and all the learned disquitions that were ever written would not hinder us from clipping their wing, or wings rather, so long as they raise good large colonies notwithstanding. We clipped over 40 a few days ago, and we cannot discover that it has hindered their laying in the least.

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Do you think it necessary to run wax, or fasten pieces of comb along upper part of the frame to induce the bees to build straight combs? or are the guide strips sufficient?

[Our comb guides are all that is needed.]

Will a few Italian colonies (or even queens) eventually Italianize (or even hybridize) the whole stock when placed promiscuously in an apiary?

[If allowed to swarm naturally, the Italian blood would soon disappear, when blacks largely predominate.]

Do you think frequent visits among bees, or much handling, familiarizes them to the operator, or neutralizes their asperity toward him, or the occasional visitor?

S. McClellan, Rocky Springs, Miss.

That frequent and careful handling makes bees gentle, almost all admit; but that they can be taught to distinguish their keeper from others, is considerably disputed. We do know that the bees we handle most frequently, soon learn to go right along with their labors undisturbed, while those out of the way, and where we seldom pass them, make a great ado if we stand in front of their hives, or tear off the quilt suddenly. As the ones most frequently handled give the largest yields of honey, invariably, we shall have to conclude that it "does 'em good."

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EDITOR GLEANINGS:—A severe type of bee fever has broken out in this neighborhood and grows worse every day. But it is human nature. Two years ago when I bought half my friend Geo. Allen's apiary (10 hives for $40.) I was asked if I thought I could get as much honey from them as I could eat. No extractor had been used here before that time. Mr. A. got one, and we took about 400 lbs. of the finest kind of honey. Now they said, "You can't sell it," but we did; and now we have three apiaries running with extractors, and others preparing. Mr. Yates has bought 20 box hives and transferred to L. hives this spring. He came to me last week to get directions for sending for an extractor. I suppose you got his order. Mr. Geo. Allen has over 40 stands, though he lost 10 or 12 last winter, I think from extracting too closely last fall. He got 14 swarms for four L. hives, one second-handed. Isn't this enough to create bee fever? Yet this is the full estimate put on bees in the old boxes.

We certainly ought to make money on bees here, if you at the North can with all the trouble you go to, making comb foundations, wintering houses, feeding, etc., etc. My Italian swarms this spring filled their new hives with comb, honey and brood, in two weeks and I took 16 to 20 lbs. from each. I have taken 600 lbs. of clover honey, very heavy and thick, and now the linden harvest is beginning. I would like to sell out to make room for the fall crop which is the largest, and I think the finest, in this region. I lost 240 lbs. last year by some bitter plant, smelling like worm seed. What was it?

J. H. Oney, M. D.
Dixon's Springs, Tenn., June 11th, 1876.

The bitter honey has been several times mentioned on our pages, but no one seems to know just what the plant is that produces it; and it may be a little difficult to determine with precision. The remedy at present, seems to be to get the good honey off the hives before it gets spoiled by any admixture of the bad. We should be very glad indeed to get more light on the matter.

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I thought it would interest you to know how I made out with the larvæ you sent me, as you thought it too far to send it and make it a success. The result is, I have three queen cells although much of the larvæ was shaken out of the cells. I shall send for more soon. J. R. Brown.
Fort Atkinson, Wis., June 15th, 1876.

I have about 80 hives of Italian bees; they are in fine condition, and are gathering honey very fast now from white clover. I winter on the summer stand, on *honey*. Have not lost a colony for the last two winters. Have no trouble from disease or moth. My stock is from queens of Dadant's importation. Had ten swarms in May. **John C. Edwards.**

Cottleville, Mo., June 15th, 1876.

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Your section boxes sent do not fit "Simplicity" hives. The three rows would be too wide by over one inch. I find the bees slow in going up stairs, even with the inducement of bits of foundation and scraps of last year's comb. They take best to the large frames with full combs. White clover in abundance and in full flow of nectar.

**Geo. G. Scott**, Dubuque, Iowa, June 14th, '76.

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I have wintered 44 hives on summer stand—have lost but 3 queens—used Quinby hive 11½x19½ packed with oat chaff. **J. W. Utter.**

Amity, Orange Co. N. Y. May 24th, 1876.

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The extractor is the best I ever saw. I threw out 50 lbs. next day after receiving it, which pays for it.

Rev. **W. H. Kerr**, Waynetown, Ind. June 12th, 1876.

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When I lost my bees, dropped the business discouraged, and went into other business which fully occupied my time, I foolishly permitted all my Bee Journals to run out, including **Gleanings**, which I had supposed I "could not keep house without", and I *have* fared badly at keeping house without it.

And now I make this proposition. If you will obtain for me a full set of Vol. III, I will pay you $1.50 for that, and take I, II, and IV, at regular rates.

What is the capacity of your wax extractor?

**J. W. Murray**, Excelsior, Minn. June 6th, 1876.

Who will furnish our friend Vol. III at the price mentioned? The capacity of our wax extractor is unlimited, for after you get the water boiling in the pan or kettle under it, you can put your bits of comb in at the top while the pure yellow wax runs out at the bottom; and the machine may be kept going continually, or until the inside basket becomes clogged with propolis and old cocoons from the brood cells. See "How to make a wax extractor", page 44, Vol. II.

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On opening one of my hives the other day, I found two queen cells attached to the *edge* of one of the *side* bars of a frame. I have never before found a queen cell so remote from centre of comb.

I have a good strong tin can 19 inches in diameter and 19 inches deep, can't I get from you the *inside work* to this can (I use American frame)? Would there be any difficulty in fitting it? I have hitherto used an extractor which has done pretty well, but it is made of wood, which I dislike; I can't keep it nice and clean.

Thus far, bees have done nothing hereabouts; the late frosts and dry cool weather since, have cut off all field forage. I have been feeding dry sugar to keep up breeding, in the hope that honey will come after awhile.

**James H. Wilson, Sen.**

P. S.—As to the *type*. I have to say I shall be satisfied any way. J. H. W., Lexington, Tex., May 25th, '76.

Queen cells are sometimes found built on the frames or on the sides of the hive as you mention but it is rather unusual. The castings for our extractors are made to fit 17 and 20 inch cans, but they can without much trouble be fitted to cans, barrels or tubs, that are a little larger, or a little smaller. If the revolving part is not exactly in the centre the machine does not look very handsome, it is true, but we are sometimes obliged to get along with things notwithstanding ill looks. We entirely agree with what is said of wood for honey. The honey soaks into it, and it becomes heavy and sticky, and finally, unless great care be used develops an odor that, to say the least, is very peculiar. Tin is light, clean, nice looking, and not expensive in the end; for a honey extractor if cared for, will outlast its owner.

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Although a novice, I am not altogether a new hand at the bellows. I have at present nearly 200 hives under my control, all of my own construction. I am vain enough to think them hard to beat. It appears to me from what I can gather, I am running nearly parallel with more enlightened apiarians, notwithstanding I am in this benighted region of Missouri. I am using boxes or frames with partition slides of wood that compel the bees to build true comb, and four inches thick if I choose, and square as a brick. I also have something on the Vogel plan. I use a frame with top bar 1 7-16 inches wide with the cross bar near the top. A strip of comb is sprung in between the upper and cross bar which ensures straight work, especially as the cross bar is so set as to have a corner downward for the bees to commence their new comb immediately under the old guide comb. My surplus top box takes frames or boxes six inches deep, same length as above. Having been in other business I have not taken a Bee Journal for several years.

**A. J. Savage**, Lakeville, Mo., June 8th, '76.

For surplus boxes there would certainly be a great saving in having thick combs, 4 inches thick as our friend mentions, if we could get them; and we are just now trying to see how thick we *can* get them built by moving the frames apart before they have time to cap them over. Also, we wish to know the utmost limit to which they can be induced to extend the cells for holding honey. If we could get them to fill section frames, or boxes, with combs 3 inches thick, it would be a great saving, for you have all doubtless observed how prone they are to extend the length of the cells, rather than build new comb, during a bountiful flow of honey. Who will produce the deepest comb? We will give $5. to the one who will send us a box or section containing a single comb of the greatest thickness, and we will pay express charges. If you pack them so the express men can *see* the honey, it will not be in much danger of breakage. Besides they have an eye for pretty goods, and it will help to advertise our honey.

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If you want to move bees a little way at this season, just take away their queen and combs, and when they are grieving in despair shake them in front of their hive in its new location and they will stick.

**J. E. Crane**, Bridport, Vt., June 5th, 1876.

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Some of my friends here make astonishing reports about their honey crop. Curry has already about 1900 lbs. from his 26 stands. Hill is said to have done equally glorious—but I have no report yet from him. I have only 780 lbs. from my 22 stands so far. My friends above mentioned have better pasture than I. As our clover crop has just commenced, I live in hope of getting my share also.

**Chas. F. Muth**, Cincinnati, O., June 6th, '76.

EDITOR GLEANINGS:—As I said when I ordered GLEANINGS, that I would tell you what success I had with my bees, I will now do so. I commenced in the spring of 75 with 6 colonies, increased to 18, (natural swarms) got about 200 lbs surplus, 137 box and the balance extracted. Sold one colony last June, and one left for the timber which reduced me to 16. Left them on summer stand, but discovered about the 15th. of Jan. that 4 of them were dead; and on examination, found that some one had applied matches to three of them. The other had smothered; cause—the bottom bars of frame were same width as side bars, consequently hive got clogged about the entrance. My hive is made with a double wall by nailing together strips of 1 inch square timber for the frame work. For the inside I use thick paper; the outside is covered with thin ceiling lumber, forming a double wall, and as there is no better nonconductor of heat than paper, this makes a hive that bees can be wintered in as safely as in a cellar, I think. Bees doing well now, though the weather so far has been rather cold, frost showed quite plainly on the morning of June 2nd. I like your paper very well; it just suits me, being made up of short letters from different ones. I am an admirer of brevity; being short myself, short of money and friends, and very often coming far short of my expectations. In May No. a question is asked in regard to honey vinegar. One lb. of honey will make 3 gallons of better vinegar than one can buy.

H.A. PALMER. Madora, Iowa. June 5th. 1876.

Give my respects to our brother bee-keepers and tell them to come up here and see an old sailor (a regular old "barnacle back") till the soil of his 8 acre farm, use a jack-plane, or manage a colony of bees. Fact, I believe I could give some of the "land lubbers" hints in either, that would benefit them.

Mr. Editor, this is the finest country in the world (this Lafayette Co). Tell that Oskaloosa, Iowa, man, page 34, GLEANINGS, to sow white clover in his orchard, there will be plenty of feed for his small pigs and bees too. I have tried it, and have 6 lbs. of white clover to sow in spring in my orchard of 100 trees, set out one year ago. Of course I cultivate with fork and hoe around my trees: plough every second or third year. Your pigs will be fat in the fall, and only need heavy feed for two or three weeks to make solid flesh for market. A. L. DAVISON.

P. S.—I nearly forgot Mr. Editor, don't publish this letter, or only what you think would benefit your subscribers. A. L. D.

Aullville, Lafayette Co., Mo., Feb. 3d, '76.

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G. M. Doolittle, page 128, is rather severe on my queens. Perhaps if he were as well acquainted with them as I am he might change his mind. They were mothers of good colonies that gathered their full share of honey, but the workers had that peculiarity of storing below to the exclusion of brood when honey came in rapidly. I have had several such in years agone when trying to produce box honey, but it is not often the case, when the hive above them is full of empty comb.

I congratulate you on your success. Sixteen hundred subscribers! Did not think a Bee journal could get half that. It is deserved, for if you can not *winter bees* you can get up a good paper. A little more poetry if you please, if you have any. It's good.

I have 50, out of 56 colonies, and have fed over 600 lbs. of honey this spring.

J. L. WOLFENDEN, Adams, Wis., June 4th, '76.

Taking the trouble to extract honey that must be fed back to them again in the spring, is something we are most decidedly opposed to; and if the hive will not hold enough to carry them through the most unfavorable season, we would advise making wider—our hoop hive will hold 11 frames, which we think would if well filled, last any colony from June of one year until June of the next, even if they gathered next to nothing—or taking out heavy combs to put back; but the latter even is so much trouble that we are afraid very busy people might neglect to do it. So we are hereafter going vehemently for a large surplus of food to be left in the hive the year round. We can certainly keep our bees from starving, if we cannot obviate all the other troubles.

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I bought a right of Mr. Isham and am very willing to pay any one for the use of his invention if I want it. I could make your corners with only the expense of dies for I have all the other tools required. Now that I have his right I can have boxes made here at a saving of about 20 per cent besides freight, which was 14 per cent more. I also learned, by using his, to make a box from tin, (glass sides) which I prefer to his; it will cost less, and the glass can be readily removed. I would be glad to pay $2,00 for GLEANINGS if large print; I use specs.

C. H. GETCHELL, Memphis, Tenn., June 5th, '76.

We certainly admire your candor friend G., but if we understand you, you have already discovered that you can make something better yourself, than the Isham box. In that case a sample of the Isham box would have been just as valuable to you as the "right." We are quite content to leave the entire subject to the wisdom and good sense of our readers; but meanwhile, would again advise beginners to be very cautious about investing in patents, in any shape. Please send us a sample of your new box and we will pay all expenses. We wish to see, and be able to speak understandingly of all the honey packages in use. Make all the corners you wish friend G., and if you can do good work at a less price than we do, you will benefit the people at large, if we do lose a little. There is plenty of work for all, and the field is so broad, that no one need feel crowded.

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I improvised a queen nursery that has given good satisfaction, out of two wash boilers, one larger than the other, bought at a sale for 15 cents, 5 cents, for solder to stop the holes, is the cost. Mounted on the open end of a tall box in the smoke house, it hatched out queens and bees to a nicety even if put in as soon as capped over. My bees are in splendid condition and the prospect for white clover never was better. By the time the extractor gets here I shall probably have plenty of use for it. I have kept my bees building combs all through fruit blossoms and they have done well. Besides the worker combs which they have built—which I left in the hives—I have a three bushel box full of beautiful white drone comb to cut up and put into boxes, and I am going to try and be in readiness for all the honey they can gather. They are going to swarm in spite of all I can do in the way of giving them room I fear, but let them swarm. I'll make them useful.

CHAS. H. RUE, Manalapan, N. J., May 29th, '76.

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Bees are doing well, only I can't keep them from swarming. They are gathering honey rapidly.

A. J. WEIDNER, Bigler, Pa., June 5th, '76.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," and have a friendly chat and feel "at home."]

## CHAPTER XXIII.

OUR concluding chapter was so lengthy last month, that we did not get at the moral we tried to convey; and to get at it briefly, we will suggest that getting out a patent is quite uncertain business, so far as profit is concerned. If you doubt this, look over the patent office reports, and see how many of the countless thousands have ever been heard of since. This is no very great argument it is true, yet most people would prefer to invest their money in something pretty sure of giving returns, rather than where there is only one chance in thousands, if they knew the real facts of the case beforehand. If it is risky to invest money in procuring patents, it is still more risky investing it in a patent that some one has to sell; for if there is any one who can make use of an invention, it is the inventor himself. Was it my duty to purchase the Wagner patent before experimenting? Had I done so, it would have been only to make it free property. Before Mr. Wagner's death, he and Mr. Langstroth procured a patent on the extractor very much as it is now made; the patent office granted a patent without a demur, so far as I can learn, but for all that, they mutually agreed to abandon it. A visitor of mine a few summers ago, spent a half day in questioning me in regard to how an extractor should be made, went home, made one and applied for a patent. He was much disgusted to find that the L. & W. claim covered the whole ground. People sometimes become incapable of taking a disinterested view of certain things, and this may be the case with me in regard to patents. I can readily comprehend that a book, or jar of honey has some intrinsic value, but not so with an individual right.

## CHAPTER XXIV.

ALL humanity we believe, without a single exception, unite in admiring sincerity and truthfulness; that is, they admire it in others. Is it not a little queer then, that we do not practice what we admire and prize so highly in others? Is it an easy matter to be truthful and sincere? I do hope dear friends you find it an easier task than I do, for, strive as hard as I know how, on looking back, I find very few days or *hours* even that I can feel satisfied with myself in that respect. The conflict goes on somewhat in this way: conscience says, the first thing in the morning,

"Now you are going to try to-day, to be sincere and truthful; to let every word and act, be a faithful representation of your thoughts; to avoid coloring, or making things look the least bit different to others, from what you see them, to avoid saying any thing for effect or convenience, and to be perfectly willing your friends should see all your faults and weaknesses if need be, rather than that you smooth matters over with pleasantly turned sentences, etc."

"But," say I, "You do not want a body to be silent, and repress the very ambition that is the mainspring of all activity and enterprise?"

"Be still! You are prevaricating already; you know that a pure and truthful ambition, one that seeks to rise on the solid rock of real and simple facts, and that would scorn to rise the fraction of an inch otherwise, is never to be repressed."

Like a school boy starting off after receiving his mother's counsels, I give a faithful promise, and start once more on the "journey of life."

But a few hours pass before conscience breaks in with:

"Look here old fellow, you have given your readers to understand that the parffine without wax was a perfect success, whereas you had only succeeded with it on a very small piece; why not wait until it is well under way before rushing into print with it? In your zeal in the patent business you have been thinking mainly of those who stood in the way of your own projects; and to come down to small items, you, a few minutes ago coolly meditated telling your wife you had forgotten the umbrella, because it was too much trouble to go back after it, to the amount of perhaps 20 steps. The real truth would have been, 'I did not think of it until I had gone about 20 steps, and then I was too lazy and selfish to go back.'"

At such a time humanity is very apt to argue the case, and say, "There is no use *trying* to be so very truthful, nobody is, nor can be so precise." Is trying of no use? Sooner or later every body's business responsibilities come to be questioned. Suppose it is a son of yours, fond mother, and that you overhear a remark like the following: "That young man will do exactly as he agrees; if he has promised money you may be sure it will be ready promptly; if he has made a statement you may rest assured that the matter is just so, and that there is no exaggeration about it; and furthermore you may trust him with any amount, and among any kind of company."

Is there one among my readers who does not know what a parent's feelings are at such a time? To the young, I would say, how do you feel when it is your father who is spoken of thus, or it may be a brother? perhaps your sister has been fondly watching and hoping you may develop principles as firm as the hills, or a whole circle of friends and relatives, have been watching, and are ready to rejoice at the evidences of a firm unshaken truthfulness.

Are there any among you who have felt yourselves weak, and unequal to the task of living such a life as I have described? Shall I tell you where to find a mine of strength more wonderful than any mentioned in the fables of old? Commence the work of teaching the youth around you, the importance of the very principles I have been speaking of. In other words go into the Sabbath schools and teach, or be taught the beauties of pure unselfish lives. If our Sabbath schools are not the place to learn truth in its utmost purity, I really do not know what they are for. Does any one feel disposed to say that those who are active in these places are not always the most truthful? Please do then come to our rescue, and if you love truth too, join with us and help to raise our standard of excellence. There is room enough, and all who would like to help in the work of encouraging temperance, honesty and purity, should certainly be with us and feel the support that comes from unity in any movement. The pilgrims were banded together when they founded our nation; shall not we, their children, preserve our nation by a similar bond?

Twenty years ago, when I was 19 years old, I was in the habit of spending the greater part of my Sabbaths, roaming about in quest of some selfish diversion. About five miles from where I now live is a small town, where one or more saloons have been kept open, week days and Sundays for perhaps 25 years. In spite of the leagues, and every influence that could be brought to bear, they have been steadily kept up, and now, for miles around, it is a gathering place for our young men every Sabbath afternoon; and yet all seem to agree that nothing can be done about it. At the time mentioned—20 years ago—there was held at a school house near, a Sunday school; and I, with some other young men used frequently to visit both the school and the saloons, and perhaps with about the same incentive, viz., to pass away the time; if we did interrupt the services now and then, I fear we tho't or cared very little about it. As time passed, the saloons became more frequented and the school less, and very soon the latter broke down entirely under the pernicious influence of the former. How could it well do otherwise?

For a great part of my life, my Sundays have been dull dreary days, and when they interfered with my usual week day duties, I have sometimes felt impatient about it. I want work to do, either with brain or hands, and like the juveniles in my class, I have sometimes thought it would be a relief, if I could only be allowed to hop skip and jump up and down the aisles during the services. I am very glad indeed, to tell you that *now* my Sundays are the pleasantest days in the week, and that I almost count the days until Sunday. Why? Because I am busy: perhaps as busy as on any week day; and what do you suppose I am doing? In an humble way I am trying to teach the children to be truthful and honest in that old school house every Sunday afternoon. Come and see: it is half past four and school is out. The pleasant greetings and words of encouragement have been received, together with the smiles from the little ones who as yet are only half acquainted. The last one has gone and as I close the door to the old school house, memory goes back to the time when I was a selfish careless boy with no firm rock of principle under my feet, and but little thought or care for the downward course which some of those around me were taking. We have started home; across the bridge going up the hill is a pleasant looking throng. There are little ones in their neat Sunday clothes, there are young men and women, the middle aged, and a few with gray hairs. All are passing along so quietly and peacefully, that as we mentally review the subjects with which they have just been interested, we can hardly help giving vent in words to a feeling of thankfulness that the old life has passed away, and that we are one of the number who are doing their humble best to try and induce humanity to lead the lives they are capable of.

How shall we induce, not only the juveniles, but children of an older growth, to believe that truthfulness is best; to have faith that it is of far more moment to be honest, than to get rich, and to open their eyes and take a wider view of things, comprehending the extent of selfishness that *will* govern humanity, if unrestrained? When I was a child, my mother taught me that God was watching my inmost thoughts, that I could not deceive him in the smallest particular; so long as I retained the faith of childhood that such was the case, I was on safe ground comparitively, but as soon as my faith began to waver, just so soon did I begin to get selfish, scheming and untruthful. Judging humanity as I see it, I really know of no other way of absolutely preventing the disposition to twist and evade truth, in the multitude of ways that present themselves, except by teaching that the Great Master who made the trees, birds, and bees, who rules all things, and made us to stand at the head of all, cares for each and every one of us, and reads our thoughts. There is a little boy in our town who is so profane, quarrelsome and hateful, as some express it, that I have sometimes wondered if any thing *could* make him serious, respectful, and humble. The time came when I felt satisfied that he was all these, and it was when he was before a large audience during a concert. For the first time I saw him anxious to acquit himself credibly, and he quailed before the sea of eyes before him, in a way that was really touching. He was then for a few moments humble and truthful, in his helplessness. Oh, that my little friends could all feel that the eye of God is always upon them, that they should be as careful before him, as if the eyes of all the kings and queens of earth were upon them, and should be equally ashamed of a wrong or impure thought. It is sometimes said that we *must* be selfish, that every body must look out for "No. 1," for if he does not, no one else will. Have you not faith that God will care for *his* children? He may not give them all the money they think they need, for very likely he can see that it is not best for them. But he *will* give them just what they expect to purchase with money, but which money often fails to buy; content, peace, and happiness, if they can only have faith that he knows best, and will consent to submit to his wishes.

A friend sent $21.00 for 2 honey extractors, but forgot to give the size of his frame. Before he could write again, his honey season had passed and he asked to have the money returned. Do you know that at first I could not send the money back without some selfish thoughts, such as wishing I had sent him the largest size without asking? And I am really afraid I began to speculate whether I could not by some pretext send them along, and thus keep the $21.00. Soon, conscience said, "Do you know that God is watching you, and that perhaps he is even now watching to see how much of a soldier you are going to be? how much money it will be safe to entrust in your care, and what kind of a use you will be likely to make of it? The money is not yours; send it back this instant. How can you expect your pupils in the Sabbath school to give up willingly what is not rightfully theirs, and listen to your teachings, if you are not sufficiently sincere to practice what you teach?

Can not all this be done without faith in God and the Bible? I would not for the world provoke controversy and discussion on the subject, and so perhaps I had better only say, that no amount of reasoning would have ever turned your humble friend from the path he was in, and from a path that he knew was day by day drawing him, in spite of his efforts to the contrary, steadily downward. Nothing would or could have induced him to undertake the task of winning selfish, profane, and disorderly boys to better lives, except a feeling of gratitude to his Maker, that he burned to repay, by reclaiming others in the same way he *himself* had been reclaimed. The patience that is required for such work, especially where no pay of any kind ever enters into the calculation, is so far as I can discover, never found outside the circle of those who take the Bible for their guide. In other words as it seems to me, the pure and peaceful "homes", where all the cares and trials of life are received with cheerful calmness, and where trouble can scarcely enter, are those whose inmates daily look to their Maker for strength and faith, and show the sincerity of their love for him, by daily manifestations of their love to all mankind in the thousand little acts of every day life, as well as in the Sabbath schools and mission labor in foreign lands. In such homes evil can scarcely enter for the presence of God is always felt.

## Notes and Queries.

WELL Novice, I took your plan of using saw dust from my saws under and around my hives. I was in my apiary to-day to show one of my customers some of my fine Italian queens, etc. Went through several hives but we got very warm and went back to my shop. Had been there just long enough to sell one extractor, when to my surprise some one cried fire! fire! and behold, the bee yard was on fire in two places. One of my best Italians was in flames and it was just worth $10,00. I called for water, the next thing was my bee cap. Well, "you bet" I got around very fast. But one colony was seriously injured. The fire dropped from my burning cloth; and this circumstance has almost discouraged me in regard to using saw dust about my bees.

JOHN B. BRAY, Lynnville, Tenn., June 8th, '76.

[We give the above as a warning, as some of you may remember we had a similar experience, a few years ago; since which time we have been very cautious with fire in hot weather. It is on this very account that we prefer some kind of a smoker, in place of burning rags, or fire in any open utensil. With the Quinby smoker, such an occurrence can not very well happen.]

From 50 L. hives I extracted 46 gallons and though three weeks have elapsed there is no honey capped over yet. Yield is about half as great as last year.

J. A. NELSON, Macon, Ga., June 9th, 1876.

White clover in profusion and honey coming in rapidly. One hive, queen from McGaw, has given me a swarm, and 75 lbs. of finest comb honey. The new swarm has filled 12 Gallup frames already. The queen in the old hive on the 10th day of May had brood in every one of the 12 frames.

W. O. ATKINSON, Vermont, Ills., June 15th, '76.

We had only 4 colonies to start with this spring, but now have 8, and we thought yesterday there were 9 as a fine swarm came out and clustered on a tree and as soon as they left, the bees from adjoining hives poured into the hive they had left, and before we could hive them they all returned to their old home; not being versed in bee culture I was unable to account for such a proceeding.

MRS. GOULDING, Butteville, O. May 27th, 1876.

[The first swarm went back probably because their queen for some cause was not with them, and while out, it seems another swarm came out, and attracted by the commotion at that hive, went to it and entered. Unless they are quickly separated, a somewhat troublesome operation, one of the queens is usually killed in a very short time. If the hive has movable combs, the queen can readily be found on opening, for one or both will be found in a knot of bees. Separate the queens and then divide the bees pretty nearly equal. If they are neglected until one queen is killed, the better way is to hive them and get a large crop of honey.]

After uniting our bees down to where we thought they ought to be, we found we had but 67 colonies to commence the season with. The flood did us more damage than we thought, as many of our stocks have to cut their combs clear away and build new to get suitable ones for brood rearing. Here is a point worthy of note: while the hybrids are discouraged and let the mud remain, the Italians gnaw the comb and mud out and build new. We could no more think of going back to black bees, than to box hives. G. M. DOOLITTLE, Borodino, N. Y., June 19, '76.

Shall feel like putting Novice in "Humbug & Swindle" column if he continues to recommend paraffine foundations. Think he recommends them before testing thoroughly. I can furnish undoubted proof that bees do *not* thin the foundations sufficiently in all cases. and that they do *not* accept a full size starter of foundation in surplus boxes as soon as a small starter of natural comb. The foundation I tested was said to be made of pure beeswax by the vendor, a man engaged in the same kind of business as Mr. Perrine. There is danger that bee-keepers will by their use destroy the market for both comb honey and beeswax. Neither do I think pure wax foundations will be a success. Prospect not very flattering at present for a large crop of honey. Found no bees in crop of king bird that seemed to be eating bees on apple blossoms.

P. H. ELWOOD, Starkville, N. Y., June 17th, '76.

[Now friend E., we should be very sorry to find you standing with those who seem to feel it a duty to predict failures prematurely, of many of the new things just coming out. Friend Heddon has just written us saying our extractors were altogether too frail, etc., which is to us quite a big joke, as we with the help of many hands are entirely unable to keep up with orders, that come mainly from neighborhoods where they have been in use longest. We are not sure that H. has ever seen one at all, and we think certainly not one we have made this season. Now it is getting to be much the same with the foundations; orders are coming thick and fast from those who have tried them; and shall we not suppose they know what they want? Let us get it into practical shape. If any one sends to us for foundations and is not satisfied with them, we will send back his money. Does that leave any room for argument? Our bees *always* make the bottom of them thin, and we havn't a particle of doubt but that yours will, friend E., under the same circumstances.]

Which would you prefer for out of door wintering, a hive holding 8 frames, regular Langstroth style, or 8 frames 16 inches long and 12 inches deep inside measure? Do you think a triangular top bar is as good to insure true combs built within the frames, as a flat bar with a thin piece of wood tacked on the under side of the top bar.

D. W. FLETCHER, Lansingville, N. Y., May 15th, 1876.

[We do not think any appreciable difference would be noticed with the frames. We are perfectly satisfied that the thin slip of wood is better than the clumsy triangular guide in every respect, or we should not persist in manufacturing all our frames in that way. We would not use any thing so thick as to allow of being *tacked* at all. If the strips are not to exceed 1-16 of an inch in thickness, the bees will build cells and store honey directly over them.]

Is it necessary that queen cells be kept in the same position in which they are built, until hatched? For example, would it do to set an L. frame, containing cells, on end in the wash-boiler lamp nursery?

ISRAEL M. KAUFFMAN, Belleville, Pa.

[We think there is no objection to turning the cells in a different position, providing they are not handled so roughly as to injure the embryo queen. When she is nearly ready to hatch she will bear considerable tumbling without injury. We have turned them in all positions, and think it makes no difference.]

---

I noticed in the June No. of GLEANINGS page 140, an inquiry from Mr. William L. Au, "Will it do to change the situation of a colony of bees etc."—and in your answer "It might answer, but we think in the majority of cases many bees would be lost."

Now I have practiced transfering, and placing them on their old stand. Two or three days after, I move them to their permanent situation, and place on their old stand, a three frame nucleus, one frame of brood and two of comb. This gathers up all the bees that were out and accustomed to their old stand; thus forming a new colony. I practice the same in hiving swarms. I let them remain a few days where they were hived, then remove to their permanent stand and place the nucleus, same as above; in a few weeks they can be built up into strong colonies, and thus I continue the operation without the loss of bees. JAMES A. PRITCHARD.

St. Gabriel P. O. La. June 7th, 1876.

[Of course this can be done, but it is more or less a damage to the colony, and a very weak one at time of transfering might die of "dwindling" in consequence.]

---

Mr. Dadant shipped me a splendid stock, full of capped brood with imported queen but owing to lack of ventilation they all smothered. On telegraphing to him he has sent me another imported queen and stock which has arrived safely, and they are carrying in honey amazingly fast. J. H. GIBBS.

Guelph, Ontario, Can. June 16th, 1876.

[It seems that friend D. has to learn a few lessons by sad experience, as well as ourselves. If such lessons don't teach a body, we do not know what will.]

Please answer me one question for I see nothing in GLEANINGS on the subject; I have 7 stands of bees and want to increase them. I have them all confined in one story ten framed hives. I have taken no honey and have had no swarms. Will my plan do?

J. A. SMITH, Elora, Tenn., June 5th, '79.

[Your plan would do very well if they would only swarm as soon as their hives are full, but this they seldom do, and you will have your bees idling away the very best part of the season. Either give them room in the upper story, or swarm them artificially as soon as they get their hives full.]

---

I would not sell Vol. III alone, but would sell the three Vols. for $2.00, the buyer to pay the postage.

J. WINFIELD, Hubbard, Ohio. June 21st, 1876.

How can I oblige a strong swarm of bees to make worker comb when I insert empty frames between brood combs? How shall I fasten artificial comb foundations in frames?

MARTIN H. ADAMS, Fort Ann, N. Y., June 19, '76.

[Your second question answers the first. Make a pattern of tin to just fit the inside of your frames; lay it on the wax sheets, and with a sharp thin knife, dipped in soap-suds cut them accurately to fit. Now provide a thin board that will just slip inside the frames half way, lay the wax sheet on it, and with a tea-spoon pour a little melted wax on the edge of the wax sheet, turning the frame so as to make the melted wax run quickly clear around the joint between the wood and wax. With a little practice you can do a very neat job, and do them very quickly. If your foundations are pure wax, and if the weather is not extremely hot, you will get frames of comb, of such beauty, that you can admire them by the hour when you have leisure. If we could only ship them safely, we would really enjoy the astonishment that some of those who are incredulous can not help exhibiting when they are shown them.]

---

You can have the III Vol. here, when needed. What is the postage? S. WILSON, Appanoose, Ills.

[Postage will be about 10c.]

---

The bees commence work on it [foundation] before they do on comb of their own make.

H. C. GILSON, Burr Oak, Mich. June 16th, 1876.

---

The comb foundation ordered from you was received in good condition.

I have Vol. III of GLEANINGS in good condition, that any one can have for $1.50 postpaid.

C.W. CAMPBELL, Walcott, Iowa. June 19th, 1876.

Queens. 1876. Queens.

I shall have for sale to Bee-keepers the present season, Choice Tested breeding queens. Raised in full stocks, from selected Imported Mothers. Price,

| | |
|---|---|
| One queen | $4,00 |
| Two " | 7,00 |
| Three " | 10,00 |

None sent by mail.

4-10 Address JAMES LA BARE, Cincinnati, O.

THE ITALIAN BEE CO.

DISSOLUTION.—Mrs. Ellen S. Tupper's connection with the Italian Bee Company terminated February 26, 1876. The business of the Company has been assigned to the management of the undersigned. Mrs. Tupper leaves no accounts, and full particulars upon all incomplete business sent to her or the Company is desired immediately. Price lists of Colonies, Nuclei and Queens, Extractors, Hives, Seeds, etc., will be sent on application to The Italian Bee Company.

4ttd J. E. ROCKWOOD, Manager, Logan, Iowa.

WM. W. CARY, Colerain, Franklin Co. Mass. Sixteen years experience in propagating Queens, direct from imported mothers from the best district in Italy. Persons purchasing queens or swarms from me will get what they bargain for. Send for circular. 7-6

"VINEYARD APIARY."

*AGAIN WINTERED SUCCESSFULLY.*

Tested queens or full colonies furnished again this season in my Non-Patent Hives. No useless traps or fixings about them. Send for Prices.

4t8 JOSEPH M. BROOKS. Columbus, Ind. Box 130.

ITALIAN BEES.

ITALIAN QUEENS bred from imported mothers—a month earlier than in the North. Purity and safe arrival guaranteed. Also full colonies of Italians in Langstroth hives for sale at $15.00 per colony.

Address DR. J. P. H. BROWN, Augusta, Ga. Sinq

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of his responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

## IMPORTED BEES FROM ITALY.

We continue to import bees from Italy, every two weeks during the season, as we did last year; and we offer them for sale as usual.

| | |
|---|---|
| Prices: Imported Queen | $16,00 |
| Home bred (tested) | 5,00 |

We guarantee safe arrival of queens. We can furnish to our customers the best references among the most noted bee-keepers of America and Europe.

We sell none but healthy and prolific queens. We wish the reader to bear in mind that *nine-tenths of the American queen breeders are now breeding from queens imported through us*. Many of them purchase imported queens from us *every year*.

If necessary we will give to those of our customers who wish it, evidence that we receive 22 queens from Italy every two weeks, during the season, from May to Oct.

Address, CH. DADANT & SON,
Hamilton, Hancock Co., Ill.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

## $1.00 Queens.

*Names inserted in this department the first time without charge. After, 10c. each insertion, or $1.00 per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions; No guarantee is to be assumed of purity, safe delivery or any thing of the kind, only that the Queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

| | |
|---|---|
| G. W. Dean, River Styx, Medina Co., Ohio. | |
| *J. Oatman & Co., Dundee, Ills. | 3t2 |
| *Dr. . P. H. Brown, Augusta, Georgia. | 9tt |
| *E. W. Hale, Wirt C. H., West Va. | 6-6 |
| *J.M.C. Taylor, Lewiston, Fred. Co., Md. | 4t1 |
| *T. G. McGaw, Monmouth, Warren Co., Ills. | |
| *J. Shaw & Son, Chatham Center, Medina Co., O. | 5 7 |
| *J. H. Nellis & Bro., Canajoharie, N. Y. | |
| *W. H. Balch, Oran, Onondaga Co., N. Y. | |
| I. Cross, Valparaiso, Ind. | |
| Miss A. Davis, Holt, Ingham Co., Mich. | 5-12 |
| Aaron I. Weidner, Bigler, Adams Co., Pa. | 6-12 |
| J. B. Dines, Libertyville, St. Francois Co., Mo. | 6 |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| *P. H. Gibbs, Guelph, Ontario, Canada. | |
| *Staples, Andrews & Vaughan, Columbia, Tenn. | 7-11 |
| *W. P. Irish, New Portage, O. | 7-12 |

## Bees for Sale.

We, whose names appear below, agree to furnish bees as follows: A two frame nucleus, full of brood and bees, with tested queen, for $6,00, or the same with $1,00 queen for 4,00. Where five are ordered at one time, $1,00 less on each nucleus; * names, use only imported mothers.

| | |
|---|---|
| *E. C. Blakeslee, Medina, Ohio. | 6-tf |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| *J. M. C. Taylor, Lewiston, Fred. Co., Md. | 7-3 |
| Aaron I. Weidner, Bigler, Adams Co., Pa. | 7-10 |

## Hive Manufacturers.

| | |
|---|---|
| A. I. Root, Medina, Ohio. | |
| J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| M. S. West, Pontiac, Mich. | 6-5 |

**COMBS,**—I have some in the standard Langstroth frame, of average quality, which I will carefully pack and deliver on the cars at 25 cts. each in lots of fifty or more. Address, F. T. NUNN, Oberlin, Ohio.

MUTH'S ADVERTISEMENT.

## HONEY JARS.

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|---|---|---|---|---|---|---|---|---|
| One pound (square) Jars, per gross | | | | | | | | $6.50 |
| Two " " " " | | | | | | | | 8.50 |
| One " " " Flint glass per gross | | | | | | | | 9.00 |
| Two " " " " " " " | | | | | | | | 11.00 |
| Corks for 1 and 2 lb. jars | | | | | | | | .75 |
| Tin Foil Caps, per gross | | | | | | | | 1.20 |
| Labels, " " | | | | | | | | .75 |
| A thousand labels address printed to order | | | | | | | | 5.00 |
| One qt. fruit jars, Mason's patent, per gross | | | | | | | | 18.00 |
| Labels for same, " " | | | | | | | | .65 |
| A thousand labels address printed to order | | | | | | | | 4.00 |
| Uncapping Knives, as good as any, each | | | | | | | | .50 |
| " " per doz | | | | | | | | 4.50 |
| Alsike Clover Seed, per bushel | | | | | | | | 13.50 |
| " " " " peck | | | | | | | | 3.50 |
| " " " " pound | | | | | | | | .40 |

## LANGSTROTH BEE HIVES.

Straw Mats, Bee Veils etc., at reasonable rates.
For further particulars, Address,
1tf CHAS. F. MUTH, Cincinnati, Ohio.

**THE BEE-KEEPERS' MAGAZINE,** an illustrated monthly journal of 32 octavo pages, devoted exclusively to Bee-Culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper and experienced Bee-Keepers in AMERICA and EUROPE. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine 1 year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with *prize* essay of Mrs. Tupper, Queen Rearing by M. Quinby, instruction for beginners, etc., sent *free* with the MAGAZINE, on trial, 4 months for 50 cents. Agents wanted—Cash commission and permanent employment. Address,
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Including 10 frames and 7 inch cap, cut ready to nail for 80c., in lots of 30 or more. *Kiln dried pine lumber used.* Address J. OATMAN & CO.,
3-4p Dundee, Kane Co., Ill.

## THE BEE WORLD.

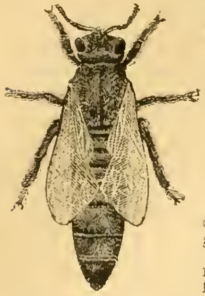
OUR Bee Journal of the Southern States. Issued monthly at $2.00 per year. Sample copies free.
Address A. F. MOON & Co. Rome, Georgia.

Do not think of taking the inside out of your extractors when cleaning them. Simply use a tea-kettle of hot water, rinse well, and turn it over to drain.

*29th*. Pure yellow wax is a success after all. We will work it up for half, or will pay 35c cash for wax made with our wax extractors, or 30c for the common. It looks now very much, as if we should be obliged to start a wax bleaching establishment.

THE section boxes work most beautifully with foundations the full size; the expense is about 3c each, and in about one week, they are capped and ready for market. In the way of selling, they beat "hot cakes" all to pieces.

THE INVENTION OF THE SEASON.—Put a common lamp into a box with one side and the top open. Cover the top with wire cloth; place on the wire cloth a tin cup containing wax. Keep the wax just melted by turning the lamp wick up or down. Now with a pencil brush, you can put the melted wax just where you want it. Fit a board in your honey boxes just where you wish the guide; lay the foundations, after being cut to the proper size, on it. Brush the wax on at top and bottom, withdraw your board, and they are firm, flat, and just at the right spot. Be sure and have the upper edge of the sheet secure. After you get it going nicely, look happy.



## QUEENS FROM THE SOUTH!

Italian queens furnished the coming season at the following prices:

| | |
|---|---|
| 1 Tested Queen | $3,00 |
| 6 " " | 15,00 |
| 1 Untested Queen | 1,00 |
| 6 " " | 5,00 |
| Full colonies in Langstroth Hives | $12,50 |

☞Safe arrival of *all queens* guaranteed.☜

Purchasers must assume all risk in the transportation of full colonies.

As prompt attention as possible will be given to all orders, and *satisfaction guaranteed.*

7tf-v Address, RUFUS MORGAN, Old Fort, N. C.

## Queens and Nuclei from an Imported Mother.

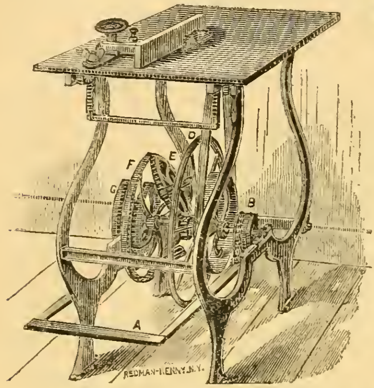
Ready to ship by June 20th. Price of tested queens $3,00; warranted $2,00. Nuclei with tested queen—two Langstroth frames with plenty of brood and, $6,00 each or $25,00 for five. Full swarms with warranted queens in Langstroth hives $12,00; or ten for $100,00.

6tf E. C. BLAKESLEE, Medina, Ohio.

## CASH FOR BEES-WAX.

We are paying 32 cents per pound for yellow bees-wax, in lots of from 50 to 5000 or more pounds, delivered at Syracuse, or 33 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

Respectfully yours, ECKERMANN & WILL.
7tf Wax-Bleachers, Syracuse, N. Y.



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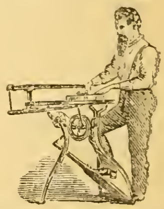
*Manufacturers of Barnes' Patent*

Foot-Power Machinery, Scroll Saws, Lathes, Circular Saws, Etc.



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### $11.50 AVERAGED PER DAY.

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MESSRS. W. F. & JOHN BARNES, Rockford, Ill.—Gentlemen: I sawed 110 frets for balustrade for portico, and 15 brackets, in first two days running. Every one who has witnessed the working of the Saw has pronounced it the most useful machine ever invented. I have been working from 12 to 16 men, and have done all my shop work (scroll sawing) on your machine, running it daily since I purchased it, and have paid nothing for repairs, except for saws, which amount was comparatively small. Three weeks since I purchased some imported woods and some nice designs, and turned my attention to fret work. I have averaged per day, since that time, $11.50. I know of no occupation as pleasant and profitable for a mechanic to spend his winter days at as the above. Your machine runs so lightly and easily that it will not tire the most delicate man after a little practice; in fact, I consider your machine indispensable to any carpenter, however small his business is, as he can introduce the little machine to his scrap pile, and make enough brackets in one week to pay for his machine. I consider my machine just as essential in my shop as a set of bench planes.

Very truly,
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Any person obtaining Three Subscribers at $1.00 each, may retain 50 Cents for his trouble.
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" " Ten " " " " 4.00 " "

Any number above Ten will be sent at the rate of Sixty Cents each.

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Names may be sent at any time during the year, and whenever a club is reached, we will credit back the amount previously sent us in excess of the Club Rates. In this way any of the

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Please mention when names are intended for Clubs. An acknowledgment will be sent in all cases on receipt of money—for any purpose whatever—by return mail. Volumes I, & II, at 75c. each, may be counted on the same terms, as we have a

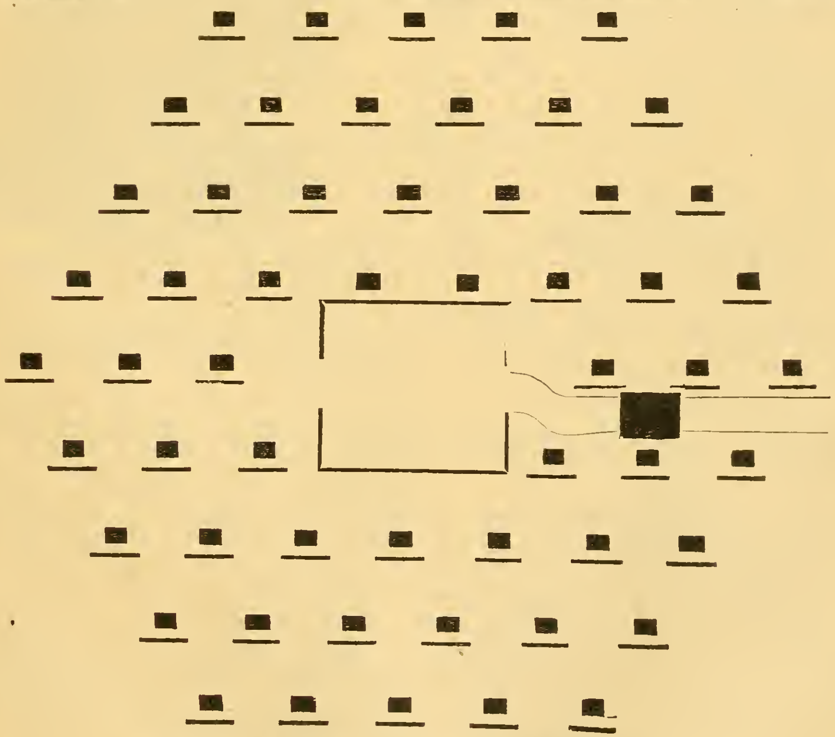
**Large Supply of BACK NUMBERS Provided for new beginners.**

As we cannot take the space in future numbers to go over the same ground again, and Volume One contains the entire Fundamental Principles and

**Ground Work for Starting an Apiary.**

# GLEANINGS IN BEE CULTURE

PUBLISHED MONTHLY, AT MEDINA, OHIO.
BY A. I. ROOT.
Vol. IV August, 1876. No. 8



## The Hexagonal Apiary.

The above arrangement of the hives and honey house, we believe to be the best of any yet suggested. After some quite expensive experiments in the way of Green houses, House Apiaries, etc., we have come back to the out door arrangement for hives; and to economize labor, we would have the hives as close to the house, and as close to each other, as the habits of the insects will allow. The distance we have used is 6 feet from centre to centre of hives, and it will be observed that each hive is the centre of 6 equally distant from it, and from each other. The blocks are to represent the hives, and the short lines the grape vines and trellises that are on the south side of every hive for shade. In the above, which is drawn on a scale of 1 inch to 12 feet, there are 56 hives, and the ones most remote from the doors of the house, are but 24 feet distant. The large block represents the car on its track, for conveying the honey or bees to the nearest wagon road. A very full description is given for building up an apiary on this plan, grape vines, honey house and all, in Vols. 1, and 2.

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There is a bogus "Novice Honey Extractor" in the market. Look out for it. It is said to be a miserable imitation.

*In ordering extractors, please* be *sure to give length of top bar, width of frame just under top bar, and distance from bottom of bottom bar, to top of top bar.*

OUR neighbor, Shane, has secured 3,300 lbs. of ext'd, and about 2,000 of comb honey. He has sold the former for 10 cents, and the latter for 20, to our friend Muth.

We have to-day, July 28, 1697 subscribers and we extend 1697 thanks to our readers for their patronage. During the month we received 89 subscribers, and seven whose time expired have failed to renew.

Although we retain the hoops for the section boxes, we have discarded them for the body of the hive. We can make a better looking hive considerably cheaper by using ½ inch whole boards, using a single hoop above to hold the quilt. The plan of having one size for all the different frames, is so great a saving that we can by no means give it up; for we are by this means enabled to have a universal cover, quilt, case of section boxes etc., and when we find that chaff is the thing, we can have the external part that holds the chaff, all alike for all the different hives also. The convenience of having the upper and lower stories precisely alike is so great, we should not think of having them otherwise.

## IMPLEMENTS FOR BEE CULTURE, ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

| | | |
|---|---|---|
| 0 | Binder, Emerson's, for GLEANINGS.......... | 50, 60, 75 |
| 4 | Boxes, section with comb guides.............. | 02 |
| 12 | " with glass sides and fancy paper trimming for above.............. | 15 |
| 20 | " four glass sides, 5x5x6¼.............. | 10 |
| 5 | " without glass.............. | 05 |
| | Balances, Spring, for suspended hive......... | 8,00 |
| 10 | Blocks, Iron, for frame making.............. | 15 |
| | Barrels for Honey.............. | $2.50 to $4,00 |
| | Buzz-saw, foot-power, *complete*, circular with cuts free on application. Two saws and two guages included. | 35.00 |
| 0 | Buzz-saws, extra, 6 inch, 1.50; 7 inch, 1,75; 8 inch. | 2,00 |
| | Comb Foundation Machines complete......... | $125,00 |
| 20 | Candy for bees, can be fed at any season. Per lb | 15 |
| 20 | Corners, Metal, per hundred.............. | 1,00 |
| 25 | " " Top only.............. | 1,25 |
| 20 | " " Bottom, gal. iron, per 100...... | 75 |

On 1000 or more a discount of 10 per cent will be made, and on 100,000, 25 per cent. The latter will be given to those who advertise metal cornered frames.

| | | |
|---|---|---|
| | Combs, empty worker in metal cornered L. frames | 50 |
| 10 | Clasps, for transferring, package of 100......... | 25 |
| 0 | Cards, Queen Registering, per doz.............. | 10 |
| 2 | Cages, " .............. | 10 |
| 18 | Case with Separator to hold 3 Section frames. | 06 |
| | Case of 10 of the above, 30 Section frames in all, | 1,25 |
| 2 | Cheese Cloth, for strainers, per yard.......... | 10 |
| | Extractors.............. | $8,50 to 10,00 |
| | " Inside and Gearing.............. | 5 00 |
| | " Wax.............. | 3,50 |
| 4 | Frames with Metal Corners.............. | 06 |
| 5 | " Sample Rabbet and Clasps.............. | 10 |
| 10 | " Closed end Quinby, nailed.............. | 05 |
| 0 | GLEANINGS, back Volumes, each.............. | 75 |
| | " present " .............. | 1,00 |
| 40 | Gearing for Extractor.............. | 1,50 |
| 20 | Gates, Honey, for Extractors.............. | 50 |

### THE HOOP HIVE.

| | |
|---|---|
| One story Langs'h without frames or bottom | $1,00 |
| The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express.............. | 2,25 |

The above is the hive we use and recommend in preference to everything else, and it contains every thing needed for all purposes except at the surplus season. If you decide to use the extractor you want an extra body and 10 frames—$1,25—making complete two story hive—$3,50—or, you can have 30 section boxes (with their 10 cases) in place of the 10 frames, at the same price. If you prefer the old style of glass boxes, we can fit the upper story with 18 having glass on four sides at 12½ cents each; this will make the hive and all cost $5,00.

| | |
|---|---|
| One story Q. hive without bottom or frames | 84 |
| The same with bottom, 10 *nailed* frames, division board and quilt, complete except surplus receptacles.............. | $2,00 |
| The same with two story, 20 frames.......... | 3,00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

A one story complete for 13 frames of either the Standard, American, or Gallup hives, will cost $2,50, and they can also be used with any of the surplus arrangements mentioned; also, as they are all deeper than the Langstroth frame, a single story can be used with fewer frames, and sections or boxes at the side of the frames. As an illustration; we can take four frames out of the one story hives above, and put in their place 18 section boxes.

25 | Honey, Clover, per lb, 16c., Basswood, 15c. By the barrel 2c. less and waxed and painted barrel included.

Honey in section frames or fancy glass boxes, 25c. gross.

| | | |
|---|---|---|
| 0 | Knives, Honey.............. | 1,00 |
| 0 | Labels, Honey per 1000.............. | 3,25 |
| 0 | Lithograph of Apiary.............. | 25 |
| | Lamp Nursery.............. | 5,00 |
| 0 | Larvæ, for queen rearing, from June to Sept.... | 25 |
| 15 | Microscope, Compound.............. | 3,00 |
| 0 | Prepared objects for above, such as bee's wing, sting, eye, foot etc., each.............. | 25 |
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| 0 | Magnifying Glass, Pocket.............. | 60 |
| 0 | " " Double lens.............. | 1,00 |
| 0 | Photo of House Apiary.............. | 25 |
| 06 | Quilts.............. | 25 |
| 2 | Rabbets, Metal per foot.............. | 02 |
| 0 | Scissors, for clipping queen's wings.......... | 40 |
| 15 | Seed, Alsike Clover, *raised near us*, per lb..... | 35 |
| 20 | " Summer Rape. Sow in June and July... | 15 |
| 0 | " Chinese Mustard, per oz.............. | 25 |
| 10 | Smoker.............. | 1,50 |
| 2 | Tacks, Galvanized.............. | 10 |
| 3 | Thermometers.............. | 40 |
| 1¼ | Universal Section Boxes in the flat, each........ | 01 |
| | Universal case of 30 boxes, just right for U. hives or any L. hive, and can be fitted, to *any* hive .... | 1,25 |
| 0 | Vails, Bee, with face of Brussels net, (silk)...... | 75 |
| 0 | The same, all of tarletan (almost as good)........ | 50 |
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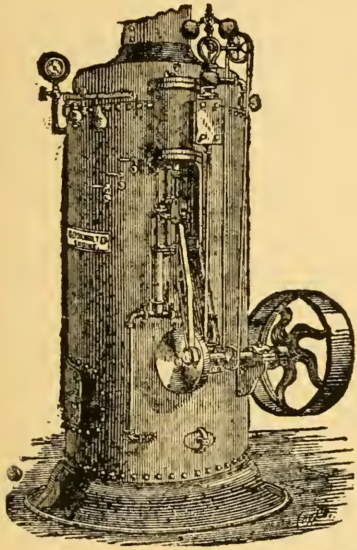

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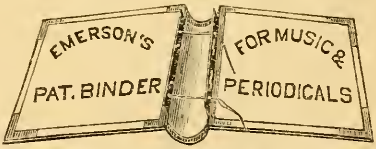

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The above are good, but are all far behind the times.

A Manual of Bee-Keeping, by John Hunter.......$1 25

This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

Manual of the Apiary. By Prof. A. J. Cook....... 20

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Vol. IV. AUGUST 1, 1876. No. 8.

## NOTES FROM OUR EXCHANGES.

WE fairly trembled in our shoes, when on opening the A. B. J. we noticed their purpose of "poking fun" at some of our weaknesses, and the way we mentally went over the awful blunders we had made here and there in a dozen different ways, was enough to make any body draw a long breath of relief on discovering that it was only because we had held up as new offenders some that were old in the humbug and swindle line. It is true Gould & Gillespie have been a long time reported as sharp patent right men, but it was not until this Centennial year, that they were positively reported as having black mailed people by the ridiculous assertion that they had a patent on the two story arrangement, and that *we* were not using two story hives.

Friend Butler of Jackson, Mich., gives some very valuable hints on hiving swarms, which we extract from as follows:

> I practice as follows: All my swarms are caught in a peach basket on the end of a pole. Take a basket and bore the bottom full of inch holes, and cut away quite a good portion of the staves, so as to make it as open as possible; stick the inside full all around on the staves with small strips of comb, a small leather strap, six or seven inches long, put through the bottom of basket and nailed on the inside, with a small harness snap on the other end of strap. Then fasten to the other end of pole, a ring, snap into the ring and your basket hangs in the form of a bell. Take a light pole, with hook on the end, and you have all that is required.
>
> We suppose your hives are already just where you want them to stand, ready to receive the swarm, some brood combs having been put in the hive. Now then, this hive has a cover or cap after the fashion of a band box. Just as soon as a swarm is on the wing and they have selected an alighting place, take the basket in one hand, hook in the other, and when about a quart has settled to the tree, shake with hook and put basket in the spot. Just as soon as the bees begin to gather on the basket, lower the basket down about one foot or so, and keep the branch shaking with the hook, and in less than five minutes you have them all on the basket. Now carry to hive, and one jerk will drop them on top of the frames. Put on the cover and your swarm is hived and out of the way, and not a score of bees will take wing after they are put in. Towards evening you must put them in whatever shape you want them. If for a honey stock, fill them up with combs and brood, and put on boxes.
>
> This will be found much more expeditious than the other way of shaking them down in the front of the hive. We have practiced this for quite a number of years, and could not get along now with the old way.

We would suggest that an upper story without combs, be put on the hive before shaking the bees on the frames, for the hive can then be covered without danger of crushing bees, and you should be as careful of every one of the little chaps as you would be of one of your own children. If a peach basket is not at hand a strong basket of any kind will do; if the swarm is at a distance, you can shoulder your pole and go home at a leisurely gait. That is the way we bring them home on the rake nowadays.

P. Miller says on page 189, he has used foundations for the past 10 years, for comb honey, and never heard any one speak of its being different from ordinary comb honey. Our experience exactly tallies with that of the *A. B. J.*, that the surplus material, if the foundation contains more than is needed to raise the cells, is used for comb building beneath, if the piece does not reach to the bottom, or to either or both the sides. This curious fact renders it unnecessary for us to be very precise about the thickness, providing we are careful to give the bees material enough. If but a small piece is given, their progress is much slower than if they have nearly a section box full. A piece four inches square fastened only at the top, seems to be about the thing for our section boxes which are about $5\frac{3}{4}$ square inside.

Mr. Isaac Smith, thinks those who *growl* so much about the "bee-business" must have sore heads or something. Perhaps he is right; when we that are so busy, turn round to take a look at those who do the "growling," we find that it all comes from a very few. The great mass of us look cheerful and contented, and some of us even saucy, but those who do growl, keep so constantly at it that they make considerable noise, even if they are but few in number. Like the juveniles in school, let us all be ready to say "It wasn't me!"

The *Bee World* has a correspondent who puts his new swarms in a barrel; he has decided that six is a little more than a barrel full, for on putting in that number, one seceded. Can not Mr. Heddon gather some hints from the plan, for his old style apiary? The same writer accidentally strikes on a bright idea, new to us at least, in regard to swarming when he is at work on a distant part of the farm. The women folks have a "flag of truce" as he terms it, and when swarms are expected he keeps an eye out for it and when seen, stirs himself accordingly.

## SOMETHING ABOUT HIVES.

DEAR GLEANINGS:—Many that now take your Journal are beginners in real bee-culture, and it seems a hardship to refer them for information to the back numbers of a journal that is not stereotyped, and whose Vol. III at least, is exhausted. For the aid of some who have written me, and others who I presume are similarly situated I will give a few practical directions which I do not expect to be of any benefit to the experienced, nor perhaps the specialist in bee-culture.

To select swarms before purchasing in the spring. Those are best with comb two years old that is mostly worker comb; that cast a swarm last year; that have plenty of brood and bees in from five to seven spaces, and honey to last till June. Say 10 lbs. In the fall, as above, but not less than 30 lbs. honey and a queen of the present season's hatching, and seven to ten spaces of bees.

In swarming time,—not less than 12 quarts of bees from a hive whose combs are old.

To move a swarm, hive in a box with at least a dozen inch holes in sides, and top covered with wire cloth or perforated tin, two cross sticks, and bottom covered with cloth, sprinkle with cold sweetened water once in six hours and keep shaded; they may be moved any distance in hot weather.

The hive to use: First of all the frame should be Langstroth, tin cornered if you can afford it, if not and you can make a good nailed frame, use that. But no one can afford to use a poorly constructed frame. Make a comb guide of bees-wax thus. Cut strips $\frac{3}{8}$ by one inch straight edged, as long as the inside of your frame. Melt your bees-wax just enough to run freely, wet your straight edge with a cloth or sponge and place it on the under side of your top bar, the edge exactly in the centre, holding the frame bottom upward inclined slightly from the perpendicular and horizontal. With a spoon pour wax in upper corner letting it run down and cool in the angle made by your straight edge and top bar, remove the straight edge carefully, and if well done you have a clear sharp bees-wax comb guide. I saw 50 combs built on such a guide last season as straight as boards.

Decide how many swarms you wish to keep and bend all the energies of your bees to building straight worker comb sufficient to allow (if you use the extractor) 20 frames to a colony. Good drone comb is not valueless for store combs in upper story, but is worse than valueless below.

I would advise a two story hive of $\frac{7}{8}$ in. boards, built with stationary bottom board below and the upper story without bottom, for either box or extracted honey. Boxes to be set on $\frac{3}{8}$ sq. strips laid across frames, upper story to be furnished with tin rabbets the same as lower story, cap to fit on either story (with a bevel) like a trunk lid, upper story to be shallow enough to let upper frames hang $\frac{5}{8}$ in. from lower ones and lower story deep enough to allow a $\frac{3}{4}$ in. rabbet for convenience in tucking the quilt that I would always use instead of honey board. Make quilt of anything warm, lined next the bees with heaviest domestic. When lifting off upper story filled with frames set on a board on which is nailed a hoop one inch wide same size as hive. Make the lower story thus, and nail the bottom board well. I have no controversy with those who use movable bottoms. I have tried them to my satisfaction, any one can tell upon trial which they like best. A man that uses them and don't get mad I commend as an example of patience. Some other time I may tell you how I manage after I get my bees and combs ready for action.

R. L. JOINER.

Wyoming, Wis. June 15th, 1876.

* * *

From Tompkins, (Mich.) *Patriot*, of June 15th.

## MR. TOWNLEY'S APIARY.

HAVING leisure a few days since, curiosity and a desire to learn something about bees prompted us to visit the apiary of J. H. Townley, of Tompkins, or, as he is sometimes called, "Bee Townley," he having made bee culture a study for the past twenty-five years; hence the name. We found Mr. Townley busily engaged with his little workers. We stated the object of our visit and we were kindly received by our host; he said he was always willing to tell what little he knew about bee culture. His apiary makes one think of a little fairy village with the houses about four or five feet apart. The air seems alive with bees, and yet everything is harmonious, each worker finding his own hive as readily as though it possessed the intelligence of a human. His stock is mostly pure Italians. He claims that they are stronger, better workers, and less liable to rob each other than our common black bee, also they were sure death to millers. He said he would pay five dollars apiece for each miller that could be found in his entire stock of one hundred stands. Mr. Townley sells very little honey in the comb; he claims that he can afford to sell the strained honey for about one-third the price of honey in the comb. He uses A. I. Root's Honey Extractor, which is quite a novel machine (and is considered the best in the market) and yet the process is very simple: The cards of comb are put into a frame, (which stands in a large tin can) and revolved rapidly around a few times and the centrifugal force throws the honey out of the cells. An experienced man will extract one thousand pounds per day in the busy season, although seven and eight hundred pounds is considered a good day's work .The busy season had not begun, but we saw enough to satisfy our curiosity. Mr. T. handles his bees with as little fear as we would a common house fly. To prevent his bees from swarming and leaving him he clips one of the queen bee's wings and when the swarm comes out of the hive she drops on the ground; he then places her in the new hive with some brood comb, puts the new hive where the old one stood, and in a short time the swarm come back, find their queen in their new home, and go to work without any farther trouble. We were surprised to learn that workers were so short lived. He said they would not live over eight weeks in the busy season but would wear themselves out with actual labor and die, while the queen would live from two to six years, and part of the time lay two thousand eggs per day. During the basswood season (which is in July and lasts ten or twelve days), last season Mr. T. kept a minute of the amount of honey that one of his swarms made, weighing the hive every night. The total amount for the ten days was one hundred and thirteen pounds. The most made in one day was seventeen pounds, part of two days during the time it rained. The bees had to go on an average two miles to gather the honey and now at the low price of fifteen cents per pound this one stand paid sixteen dollars and ninety-five cents in ten days; and we should consider by this that bees were a paying investment. Mr. T. says his stands will pay him on an average fifteen dollars per year. We learned a great deal about bees but space will not permit us to give all the particulars. Suffice it for the present to say that our host had us test all of his different kinds of honey (basswood, white clover, buckwheat, etc.,) of last year's gathering.

FANCY.

## SQUASHES AND BEES.

DEAR GLEANINGS:—The back numbers came to hand all in order. Have had a feast of good things, in gleaning their pages. Perfection is not for mortals here, below, and we alll see with different eyes, except those who *grope* their way through life and do not see at all. With the latter I am not going to find any fault at present, but I am astonished at brother Doolittle's assertion that bees gather no pollen from the pumpkin and squash; page 155, July No. Now dear GLEANINGS this touches a rather tender spot. You know we all have our hobbies and if they are assailed, we very naturally defend them if we can. There is much said about honey plants, and of cultivating special crops expressly for honey. Now I am of the opinion there is no crop that will pay for this special purpose, but I *do* think the *squash* as good, if not better than any other pollen producing plant we have; and I would advise every apiarian who can, to have one acre of squash to cultivate and attend in connection with his bees.

All good apiarians love pets. You Mr. Editor have your pet *Blue Eyes*, your pet bees, your pet hobbies in pet hives, etc. I have my pet bees, pet chickens, pet gooseberries, and above all my pet *sqash*, which my bees fertilize abundantly, and they—the squash—supply the bees with a rich harvest of honey and pollen from fresh and rich bloom every morning, from May until September; *three full months at least*. There is something peculiar in the bloom of this vegetable, as it only opens its rich golden bloom at break of day, just as the busy bee is ready to sally forth, to commence the labors of the day; and here she finds the petal of purest pollen and beneath it a cell of the purest nectar, awaiting the arrival of the early worker. Yes, so rich is this bloom, I have often seen three bees quietly taking the sweets from the base of the cylinder, while the fourth was very deliberately loading her baskets with pollen from the cylinder above. Thus as she passes from the male flower to the pistillate or female flower, it is fertilized by the pollen from the male cylinder. But stay, I am writing for a Bee journal and not for an agricultural paper. As I said before, we all have our pet hobbies. Mine are bees, poultry, and squash. As we all know, to make bees profitable we must help them all we can. There is some profit in poultry if properly managed; mine pay their way by killing moths, squash bugs, young drones and destructive insects, both in the apiary, orchard and vine patch.

The fine varieties of squash that I raise, require much care and attention; they have as many enemies as the bee, and can not defend themselves half as well. Were it not for my chickens, I could not raise them here, and the squash I know is a material help to the bee. The squash crop is self sustaining; one acre of Hubbard, Boston marrow, or Butman squash, is worth from $100,00 to $150,00. Just try it some of you, and if you don't have pet squash as well as pet bees, I lose my guess. I have some of the Hubbard at this date, (July 9th) weighing 10 lbs., of the Boston marrow, that weighs 18 lbs., other varieties very fine but not so forward.

I would say to all readers of GLEANINGS, I am not so young as I was fifty years ago. I have filled my mission by raising a family of seven children. My Blue Eyes are all married and heads of families. But I must still have my *pets*, and I find myself yet able to attend to 150 or 200 hives of bees, make my hives, cultivate my garden and one acre of squash, and have plenty of time to digest GLEANINGS once a month.

At another time if desired I will give GLEANINGS a sure method of wintering bees.

A. J. SAVAGE.

Lakeville, Mo., July 9th, 1876.

As far as honey is concerned we heartily agree with our friend, but must say with friend Doolittle that it is our opinion after giving the matter some study, that the bees get only honey from the vines. It is true they get so covered with the pollen as to resemble anything but bees, but as nearly as we can discover, this is only accidental, and nothing that the bee desires or appropriates; for we could never find that they stored the substance in cells, or that it was taken off and used in any way by the other bees. If our friend has actually seen them loading it into their pollen baskets, we suppose we shall have to give up, but we really do not believe *our* bees ever appropriate it in that way. We heartily commend such innocent pastimes as having pet squash vines, queens, chickens etc., and the pleasure felt in seeing what can be achieved with single specimens, by unremitting care and study, is not to be compared with those recreations that waste time, money, and health. Happy is the one who can during the eve of life, find peace and joy in communion with and in the study of the bees, birds and flowers all about us. Ten acres of pumpkin blossoms once gave our apiary as much as 1 lb. of honey per hive per day for several days. We satisfied ourselves of the fact by observing that the scales only showed this increase very early in the morning, and at a time when the whole apiary seemed going in that one direction. See page 78 Vol. I.

## HOW TO KEEP BOX HONEY.

BOX honey should be kept, if possible, in a honey house made for that very purpose. This house should not be over 7 feet high, and should be large enough to hold all the honey you think you will ever produce, with room enough besides, for crating it. Some one asks, "Why not have a house higher?" Because we want to secure all the heat possible without a fire, during August and September; for this heat causes your honey to grow thicker every day instead of becoming transparent and standing in drops on the surface as did Mr. Wolfenden's. Honey swells only as it becomes damp from some cause, and the first you will see of that dampness will be in the unsealed cells, where the honey will have become so thin that it will stand out beyond the cells; or in other words the cells will be "heaping full." If the dampness remains, the sealed honey will become transparent, and eventually soak through and stand in drops on the surface of the comb. Now if you keep the room thus warm you will be liable to be troubled with the moth worm. Let your first honey taken off be separate, examine it every few days, and if you see many boxes with little white places on them (generally near bottom of box) resembling flour, you will have to brimstone it, as the moths will eventually eat the sealing all off and make a bad job of it.

Novice is right about our selling our honey early, but we should not think it right to sell honey that we knew would depreciate in value in the purchasers hands, to save *ourselves* a little trouble, as he rather seems to intimate. We have always sulphured our honey with the exception of one year, the last thing before crating it. To do this, fix a solid foundation of scantling two feet above the floor, on this place your honey and whenever you think the moth should be headed off, get a pan of coals and set them in a kettle, or fix in some way to prevent danger from fire, and pour on ¼ lb. of sulphur to every 200 cubic feet contained in your room. Sulphur the last thing before crating if you wish to get a name as producing nice box honey. We have frequently seen honey in market with moth worms in the boxes from 1 to 1½ inches long and nearly as large as a pipe stem. Such honey is not very tempting to the consumer. Pile the boxes so that all entrances will be open. The section boxes are nice on this account, as they will pile compactly tier on tier, and still leave ¼ inch space between every comb all through the pile. Never let box honey freeze on any account, as it cracks it loose from the the box or through the centre of combs when it contracts. If you do not sell before freezing weather comes keep fire in your room night and day. To deliver honey in cold weather, pile the crates up so the air from your room can circulate all round each crate, keep the temperature of room from 90° to 95° for 36 hours before moving it, and it will ride in open air 25 miles on a spring wagon, before it will get cold enough to be brittle.

G. M. DOOLITTLE.

P. S. If ants are troublesome, we really know of no other way than to line the house with tin so as to make it ant-proof. G. M. D.

Very much obliged indeed, friend D. Our remarks in regard to selling honey as soon as taken from the hives, were only meant for such as was to be used up at once, and with no thought of shirking an unpleasant job to the shoulders of some one else. We have had some experience of the kind ourselves, in the way of unsightly worms in honey boxes, and the task of breaking them open and picking out the webs and worms was by no means a pleasant one.

In our market the section boxes without glass are taking the precedence; we make a case to ship or store them, just large enough for a single section to slip inside, and long enough to hold fifteen side by side. The ends of these long boxes are glass, and the cover is held on by six screws; the sides are made just the right height to allow the screws to draw the cover against the top bar of the sections sufficient to hold them from shaking about when shipped, and yet close enough to exclude flies and ants. These long boxes are very cheaply made, and are of such shape that they are almost of necessity handled carefully. When the honey is to be retailed, the box can be readily opened, the sections lifted out as wanted, and all is secure; yet the consumer gets less than one ounce of wood to the pound of honey he buys, less than with any other package for comb honey with which we are acquainted. In our own store we find it impossible to sell honey even in the nicest glass boxes, since we have offered the sections. When the honey needs brimstoning, the covers can be unscrewed from these long sections, allowing your eye to sweep every comb in an instant, and any one to be withdrawn almost as quickly. If they are kept in a tight honey house, the covers may be left off after brimstoning it, in case a second fumigation be needed. The facility with which the bees can be shaken from these sections, is to us quite an argument in their favor, in place of boxes.

On one occasion we removed some glass boxes and placed them in front of the hive, for the bees to get out; as they were slow we left them over night. During the night it rained, and our nice boxes, all made of tin and glass, were spattered with mud, and drenched with rain. They are now bothering us by leaking on the bottom of the show case; the sections when well sealed, make no trouble by leaking and daubing.

A honey box can scarcely be made, to be sold honey and all, for less than a half dollar; and a four or five pound box, even at the low price of 25 cents per pound, amounts to over a dollar. You may place them so as to catch the eye of the passer by, and they will inquire the price, but the number that can spare a dollar are few, compared with those who will hand over a quarter, or 30 or 40 cents for one of the neat little square cakes such as the section boxes contain. Some friends were at tea; the honey was all up street except that in the hives; we slipped out, raised the cover to a hive, raised the quilt, took out a section frame, shook it, blew off the bees, and was back in our place at the table scarcely being missed. The section was laid on a plate, a thin knife passed around it, and after the meal it was restored to its place in the hive, ready for the bees again.

## IMPORTED QUEENS AND INTRODUCING QUEENS.

WE are very thankful for your defense of our dealings. Very few imported queens would satisfy those who put the color above all other qualities; yet when we compare the small number of complaints, (not a half dozen in two years), with the commendation we receive daily from our customers, we are almost ready to continue our course, taking for our motto the device of Michael Montagne, "Act right, whatever be the consequences."

In your article you suggest that we refund the money to those who will not be satisfied with our queens. As you have seen, by our letter written before receiving your July No., too late for insertion, we had resolved to make an addition in that way to our advertisement. Had we taken that way before, we would have avoided many vexations, by refunding their money to two or three bee-keepers, at most, on several hundred queens sold.

But what must we do with those who will refuse to send an affidavit purporting that the queen complained of is the same that we have sent, and who, nevertheless accuse us of being swindlers?

We believe that the killing of queens by the bee-keeper while introducing or otherwise, is what makes most of the trouble between queen dealers and their customers. I know of bee-keepers who have tried to introduce valuable queens in hives with laying workers. It was sure death for the queen introduced.

Others take the queen from the hive before the arrival of the queen ordered. If the sender cannot send her immediately, or if she has been delayed on the way, a young queen may have hatched, the bee-keeper having failed to destroy all the queen cells.

Now, as a queen which has been confined for a few days in a small box with few bees, is lean, or *looks* so rather than really is, the young hybrid queen is readily believed to be the queen ordered. Then the hard names come to the queen dealer, who is yet quite sure of having sent a pure queen.

Others, to be ready, place the queen to be replaced in a queen-cage in her hive. Nine times out of ten if this confinement lasts a few days, the colony has prepared some queen cells, and the queen is killed. A few days after the bee-keeper hunts for his qeeen; he is unable to find her; a few days later he sees her laying. Of course he cannot imagine that the queen he had under his eye is not the queen received.

I could quote many more circumstances which might delude even an experienced bee-keeper. I will quote only one more: Sometimes the colony has two queens; the bee-keeper kills one, and the one remaining kills the queen introduced. We have had a case of that kind at our apiary and at a neighbor's.

We are among the bee-keepers who have introduced the most queens, in their apiaries. We have tried all methods, but we know of only one which, if well carried out, will give constant success. It is the old method of putting the queen in a cage for 40 to 48 hours.

We remove the queen to be replaced, and immediately put the cage containing the queen to be introduced between two combs containing brood. Not less than 30 hours after, we remove one of the stoppers of the cage without removing the cage, and put in place of the cork a stopper made of a piece of white honey-comb, then we shut the hive, leaving the bees to liberate the queen.

In this second operation we act as quietly as possible, not to rouse the anger of the bees; and as quickly as possible to avoid robbers entering the hive.

Seven days after, we remove the cage and see if our queen is laying. It is unsafe to trouble the bees until the queen is laying fairly. We have introduced, this spring, 55 imported queens so far, all with success. We received our sixth invoice yesterday. Twenty living queens. They will be liberated to-morrow.

We are confident that if all bee-keepers succeeded in introducing, there would be very few complaints of delinquent queen dealers. CH. DADANT & SON.

In inserting the above article we are aware that we to a certain extent advertise the business of the writers, but our experience so strongly favors queens just from Italy, that we can but feel it a duty to recommend them. There is a kind of cool energy about the workers from our imported queen, that we hardly find equalled by any other hive. Gentle to handle, keeping their post on the combs no matter where they are carried, prompt to defend themselves and out the first ones in the morning if any honey is to be gathered, we hardly see how any one can fail to like them. Yesterday we found a moth miller in the house apiary and threw it in front of their hive; it was pounced on at once, and in a trice a bee took its lifeless body away up in the air. A moth miller would be crazy to even venture within the precincts of their well kept door yard. If a head of grass gets in the way of their morning flight, they will pull and tug at it until——we take pity on them and come and pull it up. We would never try to introduce an imported queen, but would give her frames of brood just gnawing out of their cells, as we have so often advised. Let her loose on the combs at once, and with the number of bees that Dadant & Son send with them, she will lay a lot of eggs from which you may proceed to rear queens the very first day you get her. You can keep the hive closed as a security against robbers, until the young bees are old enough to fly. To give all sides impartially, we append the following, from one who knows well whereof he speaks.

Don't you think that those who are not satisfied with Mr. Dadant's imported queens (though I am satisfied that Mr. Dadant has dealt honorably with all; all the queens he has sent here are just as fine and as pure as those I have received from Italy,) should themselves import from Italy and get perfectly satisfied, and at the same time economize; as they can get the queens delivered in New York, and safe arrival guaranteed, at about $25 to $30 per dozen, according to season. Should any one wish the address of apiarians in Italy sending queens to America, I will give it with pleasure. Each queen is sent in a small box of about six inches square, containing 3 combs—2 containing honey and 1 dry. The queens are generally from 3 to 5 weeks on the way, and very seldom die, though sometimes many of the bees do.

If I thought I could sell queens (imported) at a fair price. I think I would undertake the importation on a large scale, but the trouble is to get public confidence. It seems a difficult matter, from what I see of the jealousy of some apiarians, especially in the last issue of the *Bee World*. PAUL L. VIALLON.

Bayou Goula, La., July 11, 1866.

Perhaps the above was not intended for publication, if not, we beg pardon; but it is a matter that will benefit all, by being made public. Give us the address, and we will promise to behave better, friend V.

## UNQUEENING TO PREVENT SWARMING, ETC.

EDITOR GLEANINGS:—The July No. is before me, and full of good things as usual. Deriving so much benefit myself, it may be in my power to help with a little of my experience.

I had, last Nov., 60 colonies, but had extracted too closely I am now convinced, and lost through robbery, and perhaps some by starvation, 20. About 15 in box hives, 2 in a metal rack hive, and the rest in Simplicity and Langstroth hives.

I found a decided advantage in a bran cover, made by tacking on a sheeet of Burlap across the cover of Simplicity hive, after packing full of bran—wheat. The stocks so treated came out best and were my best workers. Others, protected by being packed in straw, in 2d story, resting directly on the combs did nearly as well.

The whole of May and early June were quite cool here, and the bees never seemed to *pour in* the honey as they did last year. I had very little natural swarming, but 8 to commence with, and I have increased to 56. My best swarm I divided May 20, and by mistake took away the queen.

The result was, having lots of brood; and boxes being put on at once, they began work in them and have made 112 pounds of honey besides the fine swarm taken.

Is not this evidence that to crowd for box honey it is best to take the queen, after the hive is well filled with brood and larvæ? It has worked so well, I shall try it more fully.

If our honey harvest had been as good as last June, and our boxes full of comb or foundation, I think they could have made 300 pounds.

Several of my box hives are at work on the third set of boxes, each 24 pounds, and have fully as much made as when arranged so as to tier up. Thus far I shall average nearly as much honey from my box hives as from the simplicity, and leaving out two, more. This may go to strengthen Mr. Heddon's position, though I am no convert to his theory yet, for I believe the movable frame indispensable in giving control over their operations. I think it an excellent way to keep combs, to place them in simplicity hives over one another and sulphur them occasionally. They are out of the way and partially protected from moths, and it is so easy to apply the brimstone. Of course the shell of the hive only is used.

Is it advisable to divide and increase after the best honey season is over? J. W. PORTER.

There seems scarcely a dissenting voice, in regard to packing with chaff, bran or similar material, providing it is put close to the bees, and their hives are close and warm otherwise. We have wondered, whether the tiering up operation, was after all, of so very much importance; it is certainly considerable trouble, and we run the risk of getting a dozen boxes half filled, instead of 6 nicely sealed up. Will some of our friends enlighten us. The plan of taking away the queen just at the right time, has been advised, but it seems, never much practiced. We opine that it will not always work so well, for some stocks will remain almost idle when queenless. We think it an excellent plan to divide very strong stocks after the honey harvest, especially, if we have an abundance of combs full of stores.

## DEPARTMENT FOR BOX HIVE BEE-KEEPERS.

[For Gleaning's Box Hive Department.]

EDITOR GLEANINGS:—Your remarks prefixed to my article in July No., induces me to make A REQUEST of you. You have wisely advised apiarians not to change their style of hive, for a seemingly better one, where they had many hives of another kind. Now I have 103 hives in my house apiary all alike, and 150 of another style (all alike) in my apiary six miles away. According to your own *sound* advice. how can you expect me to add to my already established apiaries another kind of hive? Again, my stocks are all Italians except four or five, and a few hybrids. I don't propose to breed them back, but I assure you I shall take no pains to prevent their doing it themselves. The purer the Italians, the poorer wax workers they are, and the longer it takes the new swarms to fill the brood chamber. Two more humbugs are artificial queens, and transferring bees from box to frame hives. You may think me radical, but the future will verify what I say; such is my opinion. But that PROPOSITION. Supposing you are *somewhat* anxious to see me surrounded by a lot of these box hives, I request that you put in GLEANINGS (free of charge) an advertisement of Heddon's Bee Gardens, or Bees and Hives. Now I will stake what little reputation I may have, and give you any bonds you may ask for, and I *can* give, that I will in future keep none but "jet black" bees. Further that I will use no hives containing frames, no honey extractors, no comb foundations, queen nurseries, or any kindred nonsence. Artificial swarms, clipped queens, and the like, are also to be among the things that used to be it "Heddon's Bee Gardens" *provided* I find sale for my present apiaries, *or* bees and hives. I will sell at low figures, and the hives are made up more workmanlike than any I ever saw. The bees are strong and free from all disease. The combs are straight, and a small share drone cells. In fact the whole concern has been "pruned" and toned up each year since I have been the owner.

Now, I never thought of selling out my bees and hives without the other fixtures, but if you accept my proposition, and the ad. brings me customers, I will do just what I state above, and pay for the space besides. I will further agree to present 10 colonies of bees, to any apiarian this side of the Rocky mountains who will clear more cash *pro rata* from a similar amount of capital and labor invested, than I do. I shall make bees a specialty, and devote all my time to it, besides keeping a hired man, as I *now* do. Will you accept my proposition?

JAMES HEDDON.

P. S.—I forgot to say that I will do more than "own up like a man" if I find I am wrong, for I will pay you the price of the advertisement I ask for, every time I find a mistake and wish to take back into use, any of the implements or methods which I propose in this agreement to throw away. I will besides, make public statement of the mistake. J. H., Dowagiac, Mich., July 5th, 1876.

To be sure we will accept the proposition, and rejoice that at last the controversay is to be settled by practical work, rather than by talking. The advertisement will be found in this number, and with the fall crops of honey usually secured in Mich., the investment can hardly fail to be a good one for any one who is willing to work. At present we would request actual reports from those who keep the common bees and box hives. Our own hive of blacks, although quite populous, has given us just about half the honey that our poorest Italian stock has of about equal strength, and we were somewhat disappointed to find them more averse to starting in the sections, than are the Italians. Neither are they anything near as much disposed to build little bits of comb at the ends of the frames, and in every little cranny as are the others. To be sure one colony is not a fair test, and as we wish friend H. to give an unbiased report, on his side, we will try and be equally fair and frank on the other. If you are going to "own up like a man," friend H., you will have to commence very soon, we imagine; the fdn., for instance. If the package of pure wax we have just sent you does not bring some kind of an admission, we fear we shall have to doubt your candor.

## DEPOSITORY OF
# Blasted Hopes,

### Or Letters from Those Who Have Made Bee Culture a Failure.

PERHAPS you remember my writing you last fall that my prospects in regard to bee keeping were rather gloomy. I put them in the bee house early, according to your directions, but it was a wrong move for they became sadly diseased as early as in the beginning of December. I expected to have none left by spring, but through the mild winter and carrying them out to give them a fly some ten or twelve times, I succeeded in getting them all through except one, but most of them were very weak. As it has been a very good honey season I am again encouraged to invest more in the business. S. M. MOHLER.

Covington, Ohio, July 11th, 1876.

In our Feb. No. we gave the letter referred to in the "Blasted Hopes" department, but it now transpires that our friend's troubles were mostly borrowed ones, for if he got through with the loss of only *one* colony, he certainly did remarkably well. Are not many of our gloomy forebodings entirely unwarrented? We are really unable to find matter for Blasted Hopes every month, but it may be because our friends are averse to telling of their failures, or perhaps the ones who fail do not take Bee-journals. Should we chronicle all the losses occasioned by investing with traveling patent hive men, we might keep a great part of the journal filled; but it would be unfair to blame the bees for such losses. Perhaps we may get along as well or better without the troublesome lugging hives out and in doors.

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The last years April freeze finished my last stock, and I also lost them same way year before, but my son sent me in May, two light stocks from Peru, Indiana in your friend Mitchel's famous patent moth proof, moth trap hive, that needs two men to handle it, but I got them home and on the first good day transferred them to Simplicity hives. One had 2 and the other 1½ frames of brood purporting to be Italians, pure, but I call them about half bloods, no better. About the middle of July I divided, and succeeded in the operation so well I extracted 100 lbs. of honey and went into winter with 18 swarms, ten of which I enclosed in boxes and the others put in a warm chamber in the house, and carried them up and down a number of times as the weather changed. They all did well, consuming less than half their stores. I have taken 150 lbs. that was left, making 350 altogether. They dwindled some this spring, one gone entirely, and two lost their queens, but have raised others. Have now, seventeen doing well; if they fill those little boxes, I will send for more. J. CRESSY.

P. S.—The Mitchel patent hive I keep on exhibition for all callers to see; they are, as a curiosity, worth preserving, if you have a desire for one I should like to furnish you. J. C. Holland, Ohio, May 27th, 1876.

## SWARMING OUT IN THE SPRING.

I HAVE a plan by which I feel sure I can prevent any stock from swarming out in spring. I winter none but small stocks and have lost many by swarming out. Small apiaries of a dozen or two, can every one be saved by my plan. In large apiaries it would be difficult, and yet the weak stocks may be saved.

My theory is that they do not intend swarming out, that the whole thing is a mistake. When first set out, most of the bees leave the hive to enjoy the sunshine; the few that remain get uneasy and some little simpleton screams fire! fire! They all rush out, and rather than be left alone the old lady reluctantly follows.

When I get ready to set out my bees I have a spare clean hive; I bring out a swarm and wait till they commence flying. I then transfer them to the clean hive; if they have plenty of honey uncap some, if not, give them a comb well filled with syrup. I then scrape and scald the last hive for the next swarm, going through with them all in the same way. If we have a cold snap soon after setting them out, I put the weak ones back in the cellar and leave them until those outside get through with their *rush* on the first fair day.

O. W. PARKER, New London, O., June 18th, '76.

Your plan may partially remedy the trouble, but as many of ours have swarmed out several weeks after being set out, we fear it will not *always* apply. Will it not be an easier way, to have heavy stocks and pack them in chaff to keep them strong? Providing of course, that chaff answers. The scraping and scalding the hive, we can but think unnecessary, unless it is soiled from effects of disease.

## OUR OWN APIARY.

WE have increased from 46 to 75 by natural swarming, and the experience we have had in this new direction has been somewhat amusing, to say nothing farther. By the use of empty combs, we have as yet entirely prevented swarming, for not a swarm has come off from those so treated; furthermore the queen has in few instances put brood in any of the upper stories. The plan adopted was to put in one less comb above than usual, and to spread these as fast as the cells became came lengthened. Of course a second story soon becomes filled, and a new one filled with combs is then put under the one that is ready to be, or is partly capped over. In this manner we do not intrude on the brood apartment any more than with box honey, and yet we verily believe that fully as much honey will be obtained the season through. Again, as no combs are to be handled except those in the upper stories the work is even easier than with the long one story hives. Besides if one has plenty of empty combs, which every bee-keeper may have, he can keep putting on stories and do the extracting at some convenient time, or even hire some cheap help to do it. In this case the honey will be as fully ripened as the most fastidious can desire. If it be urged that it is a very difficult operation to remove honey from the hives when the bees are not gathering, we will advise removing the combs by moonlight, an operation not difficult at all, as we have several times proved. The honey can be stored in a convenient room and with wire cloth doors and windows, a couple of girls could do the extracting and keep every thing as neat and clean as any well kept kitchen or pantry. The one item of being able to work without a single bee to buzz or bother by getting in the honey, would in our estimation be worth ever so much (or more). This is not all either, if we use white, or even a very nice yellow wax for our combs, we can remove them from the hives as soon as filled and capped, and then we are ready to accept either an offer for comb or extracted honey, or even if honey is wanted for feeding, we are ready for that. Sell it just as the market demands, and there will always be the consolation of being able to give consumers just which they demand, and no charge for packages. If they see fit to return the empty frame, it is worth just as much or more to the bee-keeper, and if the frame is given in with the honey, the expense is less than one cent per lb. for the package. To be sure there will always be a demand for fancy packages, glass boxes, etc., and to supply this, every one should keep on hand a supply of a variety of these as may be needed; and if he retails honey, as every one should to make the most of his bees, he will keep a nice little show case of these on hand the year round.

The foundations of pure wax are proving all that could be desired, and the way the new swarms commence in a whole set of boxes at once, is astonishing. With the Italians it almost seems as if the foundations were a necessity, for without them they commence at the bottom and build upward in a way that is most wasteful and untidy. A new fact seems to be developing, which is that if more wax be put into the foundation than is required, they will use it for comb building in other places. There is no mistake about this, for by using wax of different colors, we can demonstrate it to the satisfaction of any one. Still farther, we can give a queenless colony foundations and thus secure the most beautiful worker comb, at a time when no comb would be built at all. How comb is going to compare with extracted honey now, is a problem we are as yet unable to solve. After they get under full way, with the foundations, perhaps they store honey in them nearly as fast as in empty combs, but we have swarming frequently when they have boxes or sections only partly filled, while as we have said before, none when at work in the furnished upper stories.

One more item, and an important one for box honey raisers: In the house apiary we have one of the most beautiful sights, in the shape of a full set of fancy glass boxes with bees at work on the snow white foundations in each. Below, is a full frame built, and partly capped over, also foundations. Well, this is a spectacle so much admired, that visitors are invited to look at it almost every hour in the day; and to avoid disturbing them with too much light, we throw over the boxes a cloth curtain when no one is watching them. On one of the hives we used by accident a thick woolen spread and several times when this cover was carelessly omitted, we thought the the bees seemed to cease work in the boxes. Experiment showed this to be the case, for if the spread was left off although the house is dark as pitch when closed, the bees would very soon almost desert the outside boxes. Is it not because the woolen covering confines the animal heat? If this is the case is it not very important that honey boxes, sections, etc., be well protected from the changes of the weather? This experiment was made during quite warm weather, and the hive was in the house also. It seems that it is far more important that the covering be close up against the glass, or if for bees in winter, close up to the cluster, than that extra pains be taken with the outside of the hive, building, or whatever they may be in. The bees need protection precisely as we would protect a child, or a baby, to get at a fair illustration. How shall this protection be given? Candidly, to do it in the best manner is to us an unsolved problem. If our readers have as little time to fuss with bees as we have, it had better be something that can be left on the hive permanently; especially if the surplus arrangement needs about the same protection as do the bees in winter. The hoop hive, or any thin hive, succeeds so far as keeping the bees dry is concerned; if we could add to it a thickness of 4 inches of chaff, and have this both in winter and summer come close to the bees, very likely we should get it about right. Listen:

> By the way, friend Root, I am compelled to smile once more at you and your experience with that Q. hive. Do you not know the principle is just that of the Finn hive? Only that is a permanent fixture, does not need fixing up every fall, nor tearing down in the spring. The material costs me but $1,00 and I can make one complete in a day; do it in winter when time is plenty And if I had one of your saws I could do much better. There is no such thing as spring dwindling unless it is starvation. Have not lost a colony in any other way.
>
> J. J. KISER, Adelphi, Iowa, June 29th, '76.

Very true, but is it necessary that our several thousand bee-keepers should each pay for a right to fix his hives just as he thinks best? If the very best plan is in possession of a "patent right, man," it will be the first instance of the kind that has come under our notice in the history of bee culture. Our Q. hive has sent out four swarms, the first has two stories full to the top and cells capped, the second just ready for the second story, and the third and fourth—doing as well as could be expected. Again, what would 100 colonies just like the chaff hive do?

*11th*—Well we can raise comb honey after all, and to confess the truth, we feel considerable elated at our success. Our trouble in former years has, we think, been mainly for the want of good sized guide combs, and this season, where we have attempted to get even a single section filled without the foundations, it has been mostly a failure. With the fdn., the veriest novice may succeed with comb honey almost as surely as with the extractor, although the amount obtained, will be considerably less, until we can manage to have the fdn. raised into comb in advance of the honey season. Again we have been repeatedly astonished at the amount of room a colony will occupy to advantage during the extreme hot weather. A very heavy swarm was given a full set of empty combs, yet on the second day they persisted in hanging on the hive; a set of section boxes was given them, but they were very soon out again, and just for an experiment, we leaned a couple of empty combs up against the hive just over the cluster. It rained in the night, and finding the combs filled with what we supposed rain we struck them against a post, to remove it; to our astonishment it was honey, and although these bees would not work inside the hive, they had very quickly filled these combs on the outside. We took the hint, and gave additional upper stories of empty comb, more shade and ventilation, and were much gratified to find we could get the bees inside the hive and at work without fail, if we only had the empty comb. The fdn. does the same thing partially, and perhaps entirely, if we can get the bees once at work on it, or can give them a piece on which bees have made a start. Probably none of us have ever succeeded in inducing a colony of bees to do all they are capable of doing. In our apiary we feel satisfied that fully one half the time of the bees has been wasted, judging from the way in which new swarms do business. Several hives are now filling their *fourth* story, and from the way these stories "lift", we should estimate they contained over 200 lbs. There has been no cessation of work with these colonies, and singular as it may seem, they fill a story placed on the top of the third story about as readily as if it were directly over the first. The long one story hives do not seem to be filled out to the extreme ends, with near the readiness of the one in which the surplus room is above. The house apiary is now working beautifully, as it did last year; and during the very hot weather, we find it quite a convenience to be able to keep the room cool, by opening the large trap door in the centre of the floor, allowing the air to mingle with that in the cellar. The building seems in many respects adapted to comb honey particularly, and the facility with which we can pile up sections and boxes without any solicitude in the matter of the cover's going on, is really quite an item. We have colonies that can only be prevented from clustering out by 3 sets of section boxes, and the ordinary L. caps, or upper stories even, will not allow this number at once. The hoops, in such a case, are very convenient, and the facility they offer for getting at the section boxes when removing them, is enough to retain them in use, even should they not prove desirable for hives. The only objection we have found, and we are not quite sure yet that it is an objection, is that the bees get on the outside of the hive if the sun strikes it directly, during a very hot day. We have persuaded them to go back, even then, by adding more stories, or more section boxes. Honey has been coming now, steadily, for more than a month, although not with the great daily yields that we have had some seasons. We feel that we have erred greatly, in not giving new swarms upper stories or boxes sooner. We at first thought it best to make them fill the whole of the combs in the lower story, before giving them more room; but our course now, is to give them surplus room above, as soon as they have filled and begun to cap the central combs; for if we examine we shall find they begin to build little bits of comb at the tops and ends of the frames before they are at work in the outside ones; this is especially the case when we give the new swarm a full set of empty combs to start with. Whatever may be said in regard to the folly of modern appliances, and [illegible] in bee-culture, there can be no question as to the utility of watching and giving every facility for steady work of the little insects during the honey months. Furnishing worker instead of drone comb, giving combs to new colonies, and furnishing the wax for comb honey, have proved already such immense helps, that one who attempts to ignore these, simply makes himself ridiculous, to say nothing of the folly of decrying the use of the extractor.

*19th.*—Honey is coming in some, but not rapidly enough to keep up work in the sections. We, in our eagerness to keep all the bees in the hives, put on additional sections, until we have some comb and little honey in a great many, and but few that are well filled and sealed over. Will friend Doolittle tell us what to do in such a predicament, or rather how to avoid it in future? We are not very much worried, for we can take these unfilled sections off while they are clean and white, and they will be beautiful to put on during apple bloom next season. Somehow it seems as if our bees collapsed in numbers all at once about July 10th; at least they got down out of the several stories of boxes, and crawled in doors where they were resting on the outside, and although we have had very warm weather since, they have not yet "resumed." We suppose it is all because the yield of honey has so suddenly collapsed. We are just now thinking of filling up the house apiary with the bees and stores contained in our 2nd and 3d stories. They certainly will need no feeding, for at present it will rather bother the young queens to find a place to lay. Is it not "jolly" to have such an abundance of "provender" for the little chaps, without any bothering with feeders? It may be we are forsaking our sugar hobby, but if blanketing with chaff will make natural stores good, what does it matter?

*20th.*—Don't know but we shall have to take back a little about the "collapsing." A sheet of yellow wax was put into the hive with the Dadant queen, and they made it into pretty fair comb, in just one night. During the day yesterday, they stored honey in nearly half the cells. If the yellow wax were as pretty and firm to handle and as nice to look at as the white, we do not know but we should give it the preference. It certainly can never be told from the white after it has been in use a few seasons as brood comb, and we imagine the bees get it into shape with more rapidity than they do the other. In very warm weather the safest way is to fasten the sheets only at the top, leaving $\frac{1}{2}$ or $\frac{1}{4}$ inch at the bottom and end; by this means we get combs as straight as may [illegible] be desired.

* * *

## PATENT HIVE [illegible], AND THE FLOATING APIARY.

FRIEND NOVICE: The July No. of GLEANINGS [illegible] just at hand, and read with increasing interest. Although I am 59 years of age, and use glasses, I [illegible] quantity even if it is small. [illegible]

I feel like boring somebody, and as you are good natured I will send these remarks to light through you. By way of introduction, I will say, that if you want to see Patent bee hive men of all description, (both hives and men) come to Texas. Every last one of them will tell you that they are disgusted with bee papers and Bee Journals, charge the whole corps of Ed's. with [illegible] etc. etc. and scarcely one of them can correctly name a Journal. And that is what provokes me. To see intelligent farmers gulled by these—what do you call them? And the farmers are in a great measure to blame, for I cannot get them to take a bee paper to inform themselves. I find a great many that would like to exchange box hive bees, for movable frames, but when you want them to take a paper [illegible] the subject they are off. It is true I can do some good in my way, and expect to get credit for it some day but it will be after they have paid dear for their whistles." One party informed me that $30,000 worth of rights had been sold of the "Tennessee bee hive" in Texas, since last fall. I am satisfied that it is true. In fact the wife of a bee-keeper in Dallas, told me that her husband bought it, and sold some $500 worth of rights before he knew enough of the hive to know that it was a nuisance. Now when he [illegible] his bees were out of it. (Query) What is the honest plan, keep the property that he took for a worthless article?

And now, Mr. Editor, I know what is the matter with J. H[illegible]ton. The man that wants a "Manual" published, and yet virtually ignores all articles and publications on Bee Culture, except "one ray" that is [illegible] on his box hive, which is not his, nor of his origination.

I had a call a few days ago from a Mr. Colvin, of Mich., with a patent box hive. I believe he is an honest man. He says he has used movable comb hives and extractors, but has given them all up, even to transferring combs into his new hive, claiming that the bees will build new comb faster in his hive, and [illegible], sooner than by the transferring method in the frames. As a test, I made [illegible] let me one of his hives, and to take as pay the amount of honey over and above that made by any of my own hives. He acknowledges that he has read Bee Journals but little. A few numbers each, of the *B. K. M.* and *A. B. J.* He admits that he is involved in [illegible] circumstances to get along without the frames. In fact, his first hive was for frames, but it was [illegible] his principles, and he gave it up. He claims

1st. That the brood chamber should never be disturbed.

2d. That his system of ventilation invariably drew the bees up into the boxes, where they went to work and were *never* seen to cluster on the outside of the hive.

3d. That the bees *never* filled the brood chamber to the exclusion of the queen, *for this reason they were not crowded* at swarming time, which he fully explained.

And this Mr. Colvin claims *J. H[illegible] as one of his converts*; and probably you will get a description of his hive in Mr. H.'s next communication.

Now, I am going to [illegible] the matter, but I will make a movable frame on the same principle, and give it a full test, and report.

Why, Novice, it will never do, after all our working and talking for Italian bees, movable frames, extractor, &c., &c., to be placed on the back seat and be charged with "[illegible]" and "old fogyism" by box hive "progressive honey makers."

There may be something in the principle, and if there is, I can utilize it without dispensing with the frames. And I [illegible] know why he did [illegible] from the peculiar shape of his hive he could not get them out or in. But with the quilt, all is possible.

I will report what success I have, also the construction of hive, if successful; if not, it would be waste of time and paper.

Well, Mr. Novice, having got on so far, I will speak of another matter that will interest G. W. Gates, as well as yourself, and others. But do not go too strong on the floating apiary, as our friend Klum has that subject on the brain, and a little encouragement might cause him to make the attempt, and ruin himself.

Well, to go back, Mr. Colvin told me that he had exchanged his hive, and right to make (at the rate of $15 per hive,) for six colonies of bees in log gums, in the neighborhood of Houston, this state. Had altogether 300 stands. Had chartered a car through to Michigan for $200, was going to ship them home, and had ready sale for them at $5.00 per stand.

Let's see; well, you figure it. The point we are most interested in is the shipping part, and as he intends to ship a load back this fall, in *his* box hive, to winter, there may be danger of his getting away with us fellows. Well, if he cannot learn from us, perhaps we can learn from him. We shall see.

J. M. HILL.

Dennison, Texas, July 11, 1876.

## FOUNDATIONS.

ENCLOSED find $5.00 for which please send comb foundations of *pure wax*, and I would like to have the bottoms of the cells as thin as you can *possibly* make them. I want to use some of them for guides in boxes, and unless they can be made thin they will not do at all.

The foundations you sent me two or three weeks ago, are much too thick. If you eat a piece of honey that has been put into them, you have your mouth full of wax.

Those you sent, I should judge from the smell, were part paraffine, and I used them in the frames in every shape I could think of, but every one of them would stretch out so that the cells looked like oblong drone cells.

You sent me a pound last winter, made from yellow wax, that were thin and nice, and have worked all right. None of them have stretched out. I think I should prefer them made of yellow wax, if you make such. Laying them in the sun for a few days will bleach them white enough for all purposes.

O. J. HETHERINGTON.

East Saginaw, Mich., July 14th, 1876.

It is very singular to say the least, that we have so many conflicting reports, and wishes in regard to the fdn. We have so many times, in our apiary, satisfied ourselves that it made no difference whether the wax sheets were thick or thin, that we find it hard to understand the statements of the few who have written like the above. So many that first wanted them thin have changed their opinion, we have of late purposely made them thicker; if made as thin as the natural comb, it would be quite impossible to handle them, and nearly all now agree that enough wax should be used to nearly make the complete comb, and that it matters little whether it be given them in the walls, or in the bottom of the cells. There is no room for argument; every bee-keeper in the land, if he has not already, will very soon test it for himself. We think you at fault friend H. on the paraffine, as it is considered entirely destitute of either taste or smell. It seems the yellow is going to answer every purpose (even for comb honey) but as it is not nearly as pretty to look at or handle, as an article of merchandise, we suppose we shall sell the white mostly, at least for the present.

GLEANINGS IN BEE CULTURE.

Published Monthly,

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

Terms: $1.00 Per Annum.
*[Including Postage.]*
*For Club Rates see Last Page.*

## MEDINA, AUG. 1, 1876.

FOR if ye love them that love you, what reward have ye? Do not even the publicans the same? Mat., 5: 46.

◆

PLEASE speak kindly in your criticisms of each other. Remember it is but human to err.

No one has as yet reported even favorably in regard to rubber gloves.

SELLING bees that are infected with foul brood, without giving the purchaser due notice, subjects the offender to severe penalty by law.

THOSE who have paraffine fdn. that they cannot use, will find the material just as good or even better than wax, for waxing honey barrels or kegs.

*World* and *Magazine* both came to hand too late for our usual notices. The account of Mr. Mehrings discovery of the foundations, in 1859, in the latter, is of rare interest.

WE keep forgetting to say that the sticks for our section boxes make grand building blocks for the children. A 30 cent package contains 180 pieces, and with them the children can build an edifice tall enough to walk under.

IT seems our bee-keepers have been somewhat blamed for the very meager show of implements at the Centennial. Our apiarists of sterling worth, are not generally fond of over much show or display, yet when invited in a friendly way to compare the products of their industry, we believe they are seldom behind. Nor are they backward in meeting all necessary expenses, but in anything approaching a ruse to secure their time or money without equivalent, we would feel pretty sure they would be found missing.

### OUR SOLUTION OF THE FEEDING PROBLEM.

Give them combs filled and sealed clear to the bottom with honey, or sugar either as you may find the cheapest. When they have consumed it all, they have a nice comb ready to be filled with brood, instead of an inconvenient feeder to be disposed of. This is the only plan of feeding we have ever discovered that will not keep the bees at home, when they should be off in the fields: as their feed is just as, and where wanted, they are under no necessity of "tinkering" with it at all. Many of our colonies have filled 40 combs, and sealed them from top to bottom. If you cannot get such combs filled yet this fall, you can have frames of fdn. built out and in readiness for next season.

OUR friends who send for larvæ for queen rearing, especually from a distance, must not be disappointed at failures. While a few have succeeded where it was sent long distances, more have failed. Unless the larvæ can be put into the hive within 48 hours, and unless the temperature be above 60°, it will die, and will fall out of the cells. If the bees remove it from the cells, you may be sure it is because it has become chilled or starved. Send to some one who has an imported queen near you, during the summer months, do not have the larvæ out of the hive more than 48 hours, and you can scarcely fail to get nice queens.

WE are very glad indeed to be able to give the reduced rates on fdn. as given on another page. Something new comes up almost daily in the process of manufacture. Our latest discovery is that the sheets may be dipped on sheets of very thick galvanized iron, and that the disagreeable and troublesome soaping operation may be dispensed with entirely, if the iron be first coated with a thin film of wax. We now offer 100 lbs. of yellow, in sheets 12 by 18 for $54.00, or the same bleached, for $72.00. The prettiest lot of yellow wax we have ever worked up or seen, was sent us by Herbert A. Burch. Will friend B. please tell us how he secured it in such nice shape?

RECOGNIZING the fact that mistakes will happen, we try to avoid them where ever it is possible to do so. After much pains and care, we manage to get your names on our subscription list all set up right, and to have every thing so your papers go straight every time; but soon comes the end of the year, and then the greater part of it has to be done over again. Now of course we cannot ask you to pay for next year before the time comes, or unless we make it some object for you so to do. We will therefore make you this offer; to all who will renew their subscription one month or more, before they should receive their last number, we will give any of the premiums offered for two subscribers, or we will allow you to deduct 10 per cent from our regular rates, as you may choose. When you wish to avail yourselves of this offer, please refer to this notice.

## Humbugs and Swindles

### Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

FRIEND ROOT;—The following letter explains itself. Please publish it for the benefit of those having honey to sell. Comments from me are unnecessary.
J. F. MONTGOMERY.

J. F. MONTGOMERY, Chicago, June 12th, 1876.
Lincoln, Lincoln Co., Tenn.

Your postal card of the 7th, inst. at hand. We will say, if you do (or have done) as you say, we will fight the payment of your claim to the bitter end. We stated that you would be paid for your honey if it were shown to be pure, on analysis, or could be sold for pure honey. When your last postal came to hand, we answered saying, that no report had been given, we would in all probability know by the 15th, or thereabouts, and when a report was given we would remit. Now if you think to *choke* it out, all we have to say is, *try it on*. Our reputation is worth more than a barrel of Tennessee honey, and your course is *not* the best to pursue, if you calculate to get your pay. A lawyer of this place who had some of it, says it is not pure, and if we do not wish to pay for it, he will defend us in a suit without one dollar of expense. This however is not our desire, but if you force us to it, with yourself rests the blame.
J. K. McALLISTER.

We have heard "Philadelphia lawyers" quoted as being equal to almost any task, but never before knew that *Chicago* lawyers were so much smarter than common people. The pretext to avoid paying for the honey is a bare-faced fraud, and if the *A. B. J.* or any one else knew that McAllister & Co., were of that stripe, why were our people not warned as they should have been long ago. Mr. Montgomery is a man who is widely known, and who would never dream of sending spurious honey to Chicago.

We have had several reports of the doings of the man Gillispie since our last, and he is getting more money than one would think possible by his absurd claim of having a patent covering all two story hives. He tells those whom he is trying to dupe, of having sold rights to most of our prominent bee-keepers, and also of having recovered large amounts for damages in lawsuits with others. It may be well to keep him before the people, as thoroughly as we did Mitchell, a few months ago.

## FEEDING BEES HONEY CAPPINGS, &C.

EDITOR GLEANINGS:—In the answer to S. R. Leonard's query, "Can queens be safely wintered, &c.," you say that they can only be wintered safely in full colonies.

I wintered two queens last winter in one of N. C. Mitchell's swindles, the Rough and Ready hive; they are made for 9 frames, 12x12, & 2 false ends; frames fit tight at sides which makes them double all round after the bees have glued the joints, which they do so effectually, that I have to run a long knife down between them every time I want them out, even if it is twice a day. I fixed it for raising queens by tacking a piece of carpet on the false ends and putting them in the fourth notch from the ends, making three divisions of three frames each, with the entrance to the middle one, on one side, and the two end ones on the others. I have raised many queens in it. For wintering I simply tack a piece of wire cloth on one frame for a partition, put six frames in the centre and the false ends against the frames, put several thicknesses of old carpet on the top, and fill the ends with the same material. Wintered two in this way in the winter of '73 and '74. Did not try any in '74 and '75. Perhaps it might not succeed in a very cold winter.

If friend Pierce had tacked a piece of cloth of some kind to the top of his wire gauze frames he might have saved all his queens, and probably each colony would have been as strong by the first of May as they were after uniting.

Some ten or twelve days since, I accidentally discovered that bees would work up new comb if left at the entrance of their hive in the evening. I had put an empty frame in the upper story of an old-fashioned hive with portico, and instead of filling it out at one upper corner, they had spliced out the cells on either side so the frames could not be taken out. I sliced them off and threw the trimmings into the portico. Next morning they were all cleaned up. Taking a hint from that, and having a quantity of cappings on hand, I gave them about two ounces of cappings the next evening, and it was all used up by the next night. I had a swarm from a hive that was hived on May 28th, on the 8th inst., which I put in a Universal hive, and gave a lot of cappings. They have filled up quite fast though the honey season is about over for the present.

Have had two swarms since, and have fed them all cappings. In the evening, they get the honey all cleaned out before morning; keep the hive shaded and they use up from one to two ounces every day. They will use it, if it is from old comb and quite dark.

Last Saturday I opened the lower story of a hive into which I had put two empty frames when I put on the upper story, and found the two frames filled with nearly all drone comb, and the comb nearly filled with drone brood, most of which was capped over. In the evening I uncapped one side of each frame, shaving it level, drones and honey, and placed them at the entrance of two hives. Next morning they were clean except the legs and wings of some of the oldest.

Whether this is of any advantage I do not know, but suppose it is, as they are getting but little honey now.

To put foundation in frames easily, take a [illegible] inch board just wide enough for the frame to fit over, and about an inch longer than the frame. Rabbet the ends down so that the guide strip will just lay flat on the board, cut your foundation to fit,—have it quite warm—put it in, and press it down at the edge of the strip with the finger. You can handle this much better than a thin board fitted inside of the frame, and your frame will not slip off at an angle of 45 degrees. You can fasten the comb very quickly by standing the board on one corner, pouring a little melted wax on the upper corner and letting it run down along the frame. C. T. SMITH.

Trenton, Clinton Co., Ill., July 17th, 1876.

If the bees really use the cappings for making new combs, as friend S. supposes, it is certainly quite a discovery. We have noticed the same thing to some extent, but have been led to believe they only used it as they do propolis to stop up cracks and crannies in their hives. Within the past few months our bees have seemed more eager for propolis than ever before, and at a time when comb honey might remain untouched on top of the hives from morning until night, they would commence carrying the propolis from an exposed quilt almost as soon as a hive was opened. We have seen them load up old comb (in their pollen baskets) very rapidly during hot weather, but as nearly as we could determine it was only used as propolis. We have many times put the cappings in the top of the hive, but we never observed that they used any part except the honey. If they took the cappings up from the entrance, it would rather seem that they used them for comb. Will others please examine into the matter; queens have been occasionally wintered in nuclei, but there have been many more failures than successes. Perhaps chaff may aid us.

## BEES-WAX.

As to whether bees make honey or simply collect it, may be a subject of discussion, but we believe there is no question in regard to wax, for bees do assuredly make it. If you have your doubts, just watch them closely during the height of the honey harvest, or what is perhaps better, feed a colony heavily on sugar syrup for about 3 days during warm weather. At the end of the second or third day, you will by looking closely see little pearly disks of wax, something resembling fish scales, protruding from between the rings on the under side of the body of the bee, and if you examine with a microscope, you will find these little wax cakes of rare beauty. Sometimes, especially when feeding heavily, these wax scales will fall down on the bottom board and may be scraped up in considerable quantities, seeming for some reason to have been unwanted. During the seasons of the natural secretion of the wax, if the colony have a hive affording plenty of room for surplus, we believe these wax scales are seldom wasted. At the swarming time there seems to be an unusual number provided with these wax-scales, for if they have remained clustered on a limb for only a few minutes, bits of wax are found attached, as if they were going to start comb. When they are domiciled in their new hive, comes the time—if the hive pleases them,—for them to show their astonishing skill and dexterity in fabricating the honey comb. In the attempts that have been made to supply material for artificial comb, we have had a view of the wondrous skill with which nature supplies just what is needed for the safety and well being of her creatures. Many substances seem at first view to have all the requirements needed, but when we discover that the material must be sufficiently soft to be readily molded at the ordinary temperature of the hive, and yet be in no danger of melting down during the intense heat of midsummer, we see that perhaps no other material than just the wax they secrete can come any where near answering the purpose. Wax melts at about 145° in its natural yellow state, but becomes so soft that it may be molded by pressure at a temperature of about 100° or less. When this yellow wax is exposed to the sun and moisture in the shape of thin ribbons, it gradually loses its yellow color, and becomes white; its melting point is also raised by this change about 12°, yet it is still readily worked into comb if given to the bees during hot weather, and when raised up into cells, it has a most beautiful appearance of snowy whiteness. This however, is soon soiled and colored, if left in the hive, for neat as bees are said to be, they have a habit of running over the clean white combs with muddy or at least dirty feet. With old and dark combs this might be unnoticed, but in a hive furnished with combs made from bleached foundations, it becomes very apparent. Like other folks the bees seem more careful of their best rooms, for the surplus honey boxes are kept much cleaner than the ordinary working room, or brood apartment, though this may not be intentional after all, for it is principally the young bees that have never been out in the fields, that work at comb-building and in the boxes. On this account clean yellow wax when used for foundations, will give very nearly as fine box honey when filled and capped over, as does the bleached. As the latter is considerably harder than the yellow, it is not worked into comb as rapidly. When the bees are needing room they will frequently raise a whole sheet of yellow into very fair comb in a single night, while it would require nearly double the time perhaps to do the same with the bleached.

# Heads of Grain.

## From Different Fields.

YOU sent me last year, two of your honey knives, and I promised to give my opinion of them. In lightness and finish they are No. 1. I have used one of them, and find that it works excellently, when kept *very* sharp. I formerly had to stand beside a warm stove (using hot water, and two big, clumsy knives) in a bee tight room all the long summer day, and it was no small job to provide all the firewood necessary. It is quite a blessing to do without this. But I have one objection to your knife. It ought to have a very slight curve. Now don't tell us, that the comb ought to be straight, and should project just so much outside the frame. We know all about that; but the comb *isn't* always, as it ought to be, and it takes time and work to get it right. However, whether the comb is straight, bulging or hollow, *I* prefer a slight curve to the knife, say, *with a radius of four feet*, and as there may be others of the same opinion as I, please tell us in next GLEANINGS, how—if it is possible—to get the knife bent without injuring it. If it can not be done to a finished knife, I should like to have a curved one made.

I am raising mostly comb honey this year, but have constant use for the honey knife in trimming comb. I have a French carving knife, the blade of which is as long as the depth of my hive, which I find of excellent use for loosening frames, trimming off bits of comb inside hive, and for many other purposes.

W. MUTH-RASMUSSEN.

Los Angeles, Cal., June 27th, '76.

We prefer to have the one knife answer all purposes, that we may not be at the expenss of two, besides the inconvenience of having so many different things about. We have found by practice that a straight blade if very thin and very sharp at the point, may be made to do almost any kind of work, even to pushing down to the bottom of the side of the hive if need be; by pressing the blade hard against a flat board, it springs straight, and is just in the right shape to cut close and smooth to the board. Although we do not think a curved blade will obtain favor generally, we will furnish them when desired, at the same price.

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Did you or any of your readers ever have a natural swarm with four queens? To-day a second swarm came out for me which had four splendid queens; I had them in four cages, standing in front of the hive. While I was hunting for the fifth, the bees got excited, came out of the hive and commenced to cluster on one of the cages. They did not seem to care about the three other queens which were near by. Why was this? I thought perhaps this was a fertile queen while the others were not, although I don't know. I started three nuclei with the remaining queens.

B. G. STAUFFER, Bachmansville, Pa., June 19th, '76.

It is not unusual for 4 or more queens to come off with after swarms, and in such cases they are all virgin queens. The text books give as a reason, that they probably all hatch at about the same time, and during the confusion of swarming join in the throng, and get along peaceably until they are ready for work in their new location. Then comes the battle for the sovereignty, and probably the fittest, as a general rule, survives.

I wrote you a week since, for a copy of your paper; have received and read it, advertisements and all. If I had known such a paper was published I would have been a subscriber before this. It would have been worth $50,00 to me this season. I have now, about 50 colonies. Swarming is nearly over for this season. My hives are Langstroth's; I paint them all. Is that advisable? The honey boards are slotted for six 8 lb. boxes. How can I improve on that? My hives contain, some 11, and some 12 frames, about the size of L. frame given in your paper. Is that too many?

O. BRUMFIELD, Brumfield Station, Ky., June 26, '76.

Undecided about paint. Boxes nor frames will give more honey. About 11 frames.

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I got 2 lbs. comb foundations from Mr. Long last year, but my queens will not lay in them as long as they can find any other comb in the hive. I have tried repeatedly putting one of these frames in the centre of the brood nest, but if the bees are gathering honey they will fill it full, down to about 2½ inches from the bottom and the queen will lay eggs in the lower part every time (the foundations were only 6 inches wide). That was my experience last season and it has been the same this season so far. Have you or has any one else had the same experience with the foundations?

A. W. WINDHORST, St. Charles, Mo., June 3d, '76.

Of late we have had one or two complaints of fdn. sent out by Mr. Long, that the bees would not use, and a sample has been sent us, having an unpleasant bitter taste; we presume this is the same mentioned by A. B. J. We assuredly do not wish anything for comb honey that has any unpleasant quality of this nature, and we are surprised that any one should have sent out such.

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MR. ROOT:—There is a man here who has a patent on a stand for bees as follows; the stand is similar to a hopper on a fanning mill with one small entrance. He sets on this, four hives; one full of bees, three empty. He says they will swarm without coming out and that there will be a queen in each hive. Will this be so?

M. L. BONHAM, Clinton, Mo., July 2d, 1876.

The device is a fair sample of the greater part of patents on bee hives, and the man who has it, is either bad or ignorant; very likely both. Bees from different hives will not work through one common entrance, as has been proven by many experiments, although they may in a few exceptional cases. The idea of their rearing queens in each seperate hive, is an utter absurbity.

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I want to say something about wintering, now that you are ready to listen. Two or three years ago I wrote you of the best success attending the packing of bees in chaff or dry sawdust. You only remarked that one swallow did not make summer etc. During the past season I wintered 122 stands out doors, thus packed, without the loss of a single colony, while I lost more or less that I put in cellar. I have wintered in the Langtroth hives single boarded packing the caps with chaff, with perfect success.

J. C. Crane, Bridport, Vt. July 4th, 1876,

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Rained almost every day since June 13th so our bees are doing *very* little storing. I never knew so poor a year for white clover honey. This, with the loss of an imported queen, makes me feel a little blue. Queen lost in introduction, I have not lost one before in years. This one I prized above all, and she, gone. Well, "I never loved a tree or flower etc."

A. J. COOK.

Lansing, Mich. July 6th, 1876.

I see in Feb. number, B. Lunderer speaks of uniting weak colonies. I never tried it but once and that proved so successful I will give you the plan not knowing whether it is new or not. On a pleasant day in January, a small starved out swarm came to my apiary and settled on top of one of my stands (I winter out doors); I put them in a honey box and smoked them and also the colony I wanted to strengthen. This destroys their peculiar scent by which they know each other. I turned them together and all was well. I see you speak of a quilt instead of honey board; what do you mean by quilt? is it made of cloth, and could you send me one by mail? and could I make them if I had a pattern? or is it patented? Also division board, does that fit close up to honey board to keep bees from going over into the unoccupied part? and does it cause them to breed faster? How often ought the old comb in lower story to be taken away? Do you use two story hives for extracting, or do you extract from lower story where they rear their young? I would like to get the Italian, but can't see into the catching of the black queen and inserting the yellow. I think I could learn more if I could visit some experienced apiarian and assist in his handling bees. Who is nearest me, that I could visit this spring? I would like to learn artificial swarming so as to save the hot laborious work of *climbing trees* etc. in the hottest weather, after them. If I could succeed as well as Mr. A, C. of Warsaw Mo., I would feel independent and master of all I *survey in the bee kingdom.* Seven hundred and fifty lbs. and 13 new colonies from 2 stands, looks "*mighty big.*" I started last spring with 9 stands and got about 40 lbs. from one stand that did not swarm; the others scarcely made enough to winter on. I have no right to doubt Mr. Campbell's statement as I don't know, and he does, but I want to learn. Does the robber bee ever make an effort to sting the bee who catches him intruding? I think not; I have always thought the robber only was killed in the combat, am I right?
S. P. CAPEHART.

St. Albans, W. Va. April 21st. 1876.

We get quite a number of letters asking "what are quilts?" "What are transferring clasps, and what are they for?" "What is a section box?" etc. etc. Now shall we use these pages to describe again what has been described so fully, or shall we be so rude as to refer new friends to the back numbers. A careful reading of our price lists would nearly always answer, and the index to back Vols. would guide to full descriptions of how the articles are made and what they are for. Many times the article itself can be sent by mail for a very trifle, and perhaps that would be the readiest way. A section box with a strip of foundation is sent you by mail for 5 cents, and 2 of this is for postage, yet some of our friends "scold" because they say we continually talk about things they do not understand. Perhaps we had better print a bee-keeper's glossary for beginners. We have had serious thoughts of printing at the head of each page "nothing mentioned on these pages is patented." We shall be very glad indeed to have any one copy our wares if they can do so to advantage to themselves, for the purpose of a bee-journal is to help bee-keepers; and if they should all get rich, they would certainly remember their editor.

It is seldom advisable to remove comb from the hive just because it is old, but it may be a very good investment to replace it with foundation, to get rid of drone comb. Extract from both stories, or the upper one only, as you prefer. It will be a very good idea to work with experienced bee-keepers if you can conveniently do so, but with the journals now published, and a few hives to practice on, you can at a small expense soon become master of nearly all that is known on the subject. We have carefully watched the behavior of robber bees, and do not discover that they ever use their stings, even when hard pressed.

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The extractor came to hand on Saturday the 17th, inst. O. K. I like it very much, it is the lightest running and best got up thing of the kind I have seen yet, so say all my bee-keeping neighbors that have seen it. We think the sample frame quite as good in its way as the extractor
S. CORNABY, Spanish Fork, U. T. June 19th, 1876.

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Our bees are doing finely, better than ever; some have filled boxes of 40 lbs. already. We number 90 colonies large and small. Bees have done better than last year. I see chaff is your hobby, so it is mine; the Centennial hive is packed with chaff in five minutes just right for winter. You will be apt to make one of your own invention. Townly saw me packing bees his way 10 years ago and he gets credit for it now.
J. L. DAVIS, Delhi, Mich. June 27th, 1876.

But we will try hard to have the credit placed where it belongs, friend D., if you will only be so kind as to give us a full description of that Centennial hive. If the chaff can be put on and taken off in 5 minutes, it is just the plan we have been looking for. Please give us full particulars, and if we can't pay you for your time and trouble, it will be funny.

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Frequently when walking among my bees, I have noticed a great commotion around some particular hive, bees crawling excitedly over the front and alighting board, and buzzing in front and above the hive. In an hour all will quiet down and work go on as usual and perhaps some other colony will be having the same performance. I have never seen this mentioned by any writer and thought perhaps you could explain it. Another question I would like to have answered is, how do bees carry propolis? and is the general experience of bee-keepers that the oftener they are stung the less effect the venom has on them?
J. E. DEAN, Fishkill, N. Y., June 20th, '76.

It is only the young bees playing in front of their hives, friend D., but perhaps you are excusable, for more than one *Novice* has, during their first lessons, thought something must be wrong at such a time. We remember very well stopping up the hives thinking they were robbing, during our first summer with the hives. They carry propolis on their legs exactly as they do pollen, and if you will leave an old quilt where they can find it during almost any hot day, you can see the whole operation of loading it up. The majority agree that the oftener they are stung, the less it affects them; but a few, say such has not been their experience.

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We have sold very nearly 700 swarms up to date. Will perhaps advertise again next fall.
MRS. ADAM GRIMM, Jefferson, Wis., June 30th, '76.

Those who complain of no sale for honey, should consider the matter of selling bees. The demand is almost unlimited, and one who can manage to steer clear of the wintering troubles, should find no difficulty in producing stocks at the prices quoted by Mrs. Grimm.

One of my neighbors had three swarms before the middle of May, first one on the 7th; they were Italians. I had three swarms this week. The first one came off at 8½ A. M., and was immediately hived in a new frame hive of dried poplar. They came out at 5½ P. M., and went to the woods. I scratched the inside of hive and next day put another swarm in, which went to work.

WILLIAM A. DOUGLAS, Oxford, Ohio.

N. B.—If those section boxes will not do for old style Langstroth hives, you need not send the extras, but hold my $1,25 for further orders. W. A. D.

We suppose the "scratching" was meant to give the bees a better chance to "hook on;" if it answered, all right. Our cases of sections, are just right to go inside the old style Langstroth cap, or cover.

Why do not bees commence working on white clover sooner? It has been in blossom now about two weeks and they do not seem to notice *it*. I have been somewhat curious to know what they are working on now, but have not been able to find out unless it may be poplar; but have not seen that kind of timber and so do not know.

S. A. DYKE, Downington, O., June 8th, 1876.

Bees do not seem to get much honey from any kind of blossoms until they are pretty fully matured, or even on the eve of drying up. We have many times noted that large yields of honey from apple blossoms only come when the petals begin to fall. We too have noticed when the clover first comes out, that it seems almost unnoticed for several days. With us, shell bark hickory furnishes considerable honey of a dark color, just before the bees commence on clover, and it is important that we are careful to prevent this from being mixed with our clover honey.

This is the best season for bees that we have had for six years. The fields are white with clover yet, and red clover yielded abundantly.

I have no trouble introducing a queen just hatched. I put a little honey on her back, to stick her wings down, then lift a frame from a queenless hive and put her on the comb. When introducing a laying queen, I take away the queen I wish to replace and wait until the bees show that they miss her, which they do by running around outside the hive and squealing dolefully. I then lift out a frame of bees and put it behind the division board, or into an empty hive, put the queen on it, with her wings daubed, and spray the whole with sweetened water scented with nutmeg, and if the bees do not roll her up in a ball put the frame back in the hive. If they do, put her in a cage on the comb for a few hours, then let her out, spray them, and try again. They will come to terms after awhile. This may look *big* but I have never lost one yet. Dont forget to daub her wings so that she can't *squeal*. I think that when a swarm does not kill their drones in the fall, a queenless swarm will be found in the spring.

Is honey candy good? Honey slightly boiled is any thing but delicious.

LLOYD Z. JONES, Galva, Ills., July 12th, '76.

Many thanks friend J. we really think you have this time struck on something of great importance, for we have often felt that if we could only induce young queens to "keep their mouths shut" as we expressed it, they would pass safely unnoticed. But after they are a day or two old, they are almost sure to utter their note of alarm if the workers happen to take a notion to look them over a little inquisitively, and then follows a general rush for the stranger; for the cry of a queen is something that seems to stir every bee in the hive very much as the cry of fire stirs us at midnight. Now bees do all their talking with their wings—did you never hear them say plainer than words, "if you don't go right away from our hive I'll sting you?"—and if their wings are pinned fast with a drop of honey, as our young friend directs, of course they are dumb for the time being, and a queen must crawl silently through the throng in this condition, no matter how much she feels like screaming out in affright. If this really does all it promises, we certainly shall owe our 18 year old brother a vote of thanks for his ingenuity and research. Many a young queen have we lost, just because she would "holler" when they began to run after her.

Lamp nursery received. Does well. I smoke the bees well with smoke from rotton wood. Hickory is best I have tried. Catch queen in cage and let her crawl out quietly among the thickest bunch of bees; if they pull her legs and wings I smoke them until they will let her crawl quietly among them. Never catch young queens in your fingers, but hold a cage over them until they crawl up, then set the mouth on a piece of fresh comb. In this way you leave no strange scent on the queen, and the bees will almost invariably receive her. I intend to put new queens in place of all old, badly marked queens, or those producing cross, or lazy bees. I put a virgin queen in No. 62 which had an old fertile queen, bees commenced fighting and after killing hundreds carried out the old queen dead. A bunch of bees watched her all night, and next day. Singular wasn't it? Next evening they carried out the virgin queen and I had to give them a new one.

JOHN LAFFERTY, Martinsville, Ills., June 11, '76.

I had a very large swarm come off yesterday which I succeeded in hiving all right. This morning between six and seven o'clock they went off; I followed until I lost all hopes of getting them, and gave them up as a bad bargain. Now losing a swarm is a common occurrence, but the uncommon comes in here: I had been home about one-half or three-quarters of an hour when my swarm came rushing back, entered the hive they left and went to work as if they intended to stay. Now if it had been a second swarm I could have accounted for it, but it was a first swarm and must have had a fertile queen. Can you enlighten me on the subject?

W. A. VINCENT, Buchanan, Mich., July 8th, '76.

Friend V. there is something we would prize very much, and that is a photo of your visage when you were compelled to give up that truant swarm; and another when you saw them returning, and were sure they were going back into their old hive again. We do not know but that it would be worth engraving for our front cover. There are several causes that may have brought about the phenomena. Perhaps the old queen, by mistake when they swarmed, got up into the honey boxes, or somewhere, and they did not discover her absence until well under way to their chosen home in the woods, or are you sure it was the very same swarm that went into the hive the second time? Those who are good at riddles, perhaps can help us farther.

Have used gloves for ten years. Do not like rubber, they make the hands sweat so. I use thin buckskin. Should not think of touching them without. Have had more stings in five minutes without them than I now get in a year. E. C. Newell.

Wolfboro Junction, N. H., July 7th, 1876.

My bees commenced swarming the 11th of June. Up to the 10th of July have had 40 large swarms. At date, are doing well.

What should a swarm weigh? I weighed one that pulled down 5½ pounds. Is that a good swarm or not? Rose, N. Y., July 17th, 1876. Lyman Legg.

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My best swarm has made 150 pounds of nice honey in small sections or frames, and has two set on now, one of them ready to cap; they have not commenced to work on basswood yet. F. M. Dickinson.

Whitney's Point, N. Y., June 13, 1876.

I have 56 colonies of bees here that have done poorly this season in the way of honey; I will have about 1,000 pounds extracted. The freeze in the spring killed nearly all the poplar bloom, and since linwood and sourwood came into bloom it has rained nearly every day; in the last 17 days it has rained 15, from copious showers up to *gully washers*.

I have commenced making nuclei to build up swarms as soon as I can raise the queens; will buy honey to feed with. My son, Milton, was here from Indiana last week; he had taken 4,300 pounds of very light colored thick honey from 36 colonies, and he wrote me since that he thought there was enough to take out to make it 6,000 pounds.

Comb foundations have not worked well with me this year; a large portion of them in the sections seemed to get so soft that they would fall down in the sections.

Is John Long in the comb foundation business yet? I sent him, in January last, $100 for white comb foundations. He sent me 28 pounds in March, and that is the last I heard from him. I have written several times; any information concerning him will be thankfully received. I got 50 pounds of foundations from Perrine at $1.30 per pound. P. W. McFatridge.

Elora, Tennessee, July 14, 1876.

It seems friend M., that as far as honey is concerned, you would have fared better at home than where you are; we wonder if it is not generally the case that our own localities properly developed would do about as well as any other. The case mentioned is the only one we have seen against Mr. Long, with one exception. Can he not fix up these two, and have his dealings all stand fair and square?

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How would you proceed to get a nice lot of worker comb built yet this summer? What real advantage is there in comb foundations?

J. M. Mohler, Covington, Ohio.

We would use yellow fdn., and would, if the yield of honey were not sufficient to make them build them out, feed common yellow sugar. This yellow sugar will produce more comb than the white sugar, and if fed in Aug. and Sept., is perfectly safe to winter. The advantages of fdn. are that you secure all worker comb, that you get it much quicker, and that you, by furnishing most of the material, make a great saving in honey. In surplus boxes, we get fine crops by their use, where we otherwise would get very little, or none at all.

Last fall I put 10 swarms into my cellar; they all came through alive, though three were very weak; one had not over a half cup full of bees; I gave it bees from others, and as soon as there was brood, gave them some.

I have made five new swarms and extracted 1,300 pounds; the greatest quantity from one swarm, 286 pounds, extracted as follows:

| | | |
|---|---|---|
| June | 12 | 22 lbs. |
| “ | 16 | 38 |
| “ | 21 | 32 |
| “ | 24 | 41 |
| “ | 27 | 24 |
| July | 1 | 43 |
| “ | 3 | 25 |
| “ | 10 | 61 |
| | 29 | 286 |

Subtracting the 22 lbs. will leave 264 lbs. gathered in 28 days; a little more than 9 lbs. per day.

I. E. Daniels.

Lodi, July 17, 1876.

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I have had bees stationed inside my barn some two or three years, and with good success. They are on the east side; there is an entrance cut through so that they pass out and in the same as if they were out doors in a common hive. I now have some 25 swarms arranged on shelves—a plan something like yours. The barn is old, with plenty of cracks between the boards. I put hay on and around them in cold weather. H. L. Lankton.

Hartford, Conn., July, 1876.

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Allow me to suggest that you add to your list the price of tin cans, say 10, 15, 20 and 30 gallons; with raised bottom like extractors, with a lid, side handles and honey gate. I can't get the tinners here to put on the price, till the work is done; and then they will charge *two* prices. I wish the can for carrying the honey to market.

Henry Culp, Hilliard, O., July 15th, 1876.

We can furnish the cans for our extractors probably much cheaper than any tinner, and considerably cheaper than they could be made did we not make them in as large quantities as we do. We will furnish the No. 1. can, holding about 15 gallons, for $3.50. No. 4 or 5, holding about 20 gallons, for $4.00. No. 10, the largest, holding about 30 gallons, for $5.00. A gallon of honey weighs about 11 pounds. The cans mentioned are furnished with honey-gate and cloth cover. If side handles are wanted we will add them for 50 cents extra.

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In the summer of 1874 I had 25 stands of bees. I extracted all the basswood honey from them, intending to feed sugar syrup in the fall, if they gathered nothing; in the fall I was very sick and so lost all but 6 weak stands. The following season I got up to 13 (this was the grasshopper year when bees starved in June) and have now, July 10th, 29 stands from which I have taken 900 lbs. basswood honey, all extracted. Would like to sell it at 16 cts. This spring bees have done nothing on white clover. Basswood is all over; white clover is thick but the bees get no honey from it. By the way, I would like to know the best way to wax a barrel, and whether good new white oak bbls. made to hold whiskey, will do to hold honey.

F. J. Farr. Independence, Mo. July 10th, 1876.

P. S. Mr. James Meader, of this city, had 11 swarms cluster on one limb, one day this season. How is that for a big swarm? Have you seen it beaten? F. J. F.

There is a moral to the first part of the above that it will be well to heed. If you have been so careless as to rob your bees, you had better see about getting it back to them now; that is, if they are gathering no honey. Very full instructions for waxing barrels were given in Vol. I, and we have nothing to add, unless it be to give a caution about using rosin with wax. The rosin will spoil the flavor of the honey in time, and in spite of our repeated warnings, we notice the *Magazine* has recently given it a recommend. With the experience we have had with paraffine, we think it will answer excellently, and it is considerably cheaper than wax. Melt about a gallon, pour it into the barrel and drive in the bung. Roll it over and back again, twirl it on one end and then on the other, and be sure every portion of the inside is well coated; if the barrel is tight, the bung should when loosened fly out with an explosion, caused by the expansion of the air when shaken up with the heated wax or paraffine. This same operation causes it to enter and fill every crack and crevice. Almost any barrel will do for honey when thus treated, if it is sufficiently strong. Remember that honey is very heavy. Eleven swarms in one cluster is rather ahead of us; can any one else match it?

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I took off on Saturday, the bulk of my honey harvest, a little over 3000 lbs. from 22 stands. There are several hundred pounds yet on my stands ready to take off, and honey is still coming in. Curry has almost double the quantity of honey, from his 26 stands, and Hill, whom I saw yesterday, has perhaps the prettiest crop of comb honey, and extracted, in the state of Ohio. I hope he will make a report this fall. Take it for granted that his comb honey will pass for a pattern to go by. C. F. MUTH, Cincinnati, O., July 10th, '76.

DEAR NOVICE :—Bees are doing finely now, when the rain will let them, lugging in white clover honey, sticking the brood nest all full of it. Our stocks are all strong in brood and bees. Put 12 into winter quarters, lost one—queenless; have sold two, now have 13, and will be making more right along. It looks like the biggest honey season we have ever had here, if it holds out as it has begun. I never knew how handy my extractor was till I sold it and now have to borrow my neighbor's till I can get my new one finished.

Friend Doolittle says, "From all light we can get, willow produces no pollen, more than does the pumpkin or squash." We have always thought melon vines were the *ne plus ultra* for pollen, seeing the bees just rolling in them, all covered over with it. Guess friend D. must have a queer kind of melon or bees, I don't know which.

We make the entrance to all our hives just ⅜ inch high and are never troubled with mice, tho' we pack in straw and chaff.

Like you, Novice, we have become heartily sick of feeding bees, and have resolved that hereafter "we'll none of it," but have honey enough in the hives at all times of the year to keep the bees for months if need be.

We, too, use the sawdust when we can get it, but have never had any fire from it for we sprinkle it on light and often, so it is too damp to take fire, but still enough of it to keep us out of the mud.

Our eyes are good, and with sympathy for the old folks and weak eyes, we say give us the small type and lots of reading. Can't spare *any* of my GLEANINGS "no how."

WILL. M. KELLOGG.

P. S.—I handle other bees than our own, and have already got out over 500 lbs., mostly extracted. Bees are swarming all round us, but none of it in our own yard.

W. M. K., Oneida, Ill., July 10th, '76.

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Bees doing finely so far, made thirty thousand lbs of honey. To sell, *that* is what gets us, here in Cal.

E. E. SHATTUCK, Los Angeles, July 1st, '76.

Basswood is now in full bloom and it is raining every day as usual; the wettest season ever known, we have hardly seen the sun here this summer. Bees swarming to beat anything I ever saw. I reared two queens from the brood I got of you. HIRAM ROOP.

Carson City, Mich. July 12th, 1876.

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The case of sections and foundations came to hand safely, in due time. We were so well pleased with them that we spent part of our Centennial Fourth fitting the foundations in the sections.

Hans (my brother-in-law) and I then took them to his place, as he had Simplicities, and put them on one of his strongest two-story hives. The bees were working like sixty in the upper story; we shook them below, took away the story and put on the case. The bees soon crowded back and filled it. We took off our hats and hurrahed for liberty and foundation comb. The bargain was that I was to give him as many pounds of extracted honey as his bees would make in my sections. He was to have the premiums the honey would be sure to take at two or three fairs near here; I was to have the proceeds of the honey sold, and Novice was to have the glory.

Well, we had lots of trouble getting the foundations in. They bagged and bulged and crooked and waved, and after we put them on the hive they kinked worse than ever. The next morning the bees went below disgusted. A few bees would come up and walk around on those crooked foundations, and remark,

"Well, what numbskull has been been furnishing our upper chambers with this kinky stuff? Where are those straight combs that we have taken so much pains to build, and were so proud of? As for these things, we will have none of them. Let's cut them out."

And cut it out they would, if Hans had not discovered them, and taken them off. He then took the foundations out, waxed them in straight, as per last GLEANINGS, which had not come to hand the 4th, and put them on a strong colony just ready for an upper story. But, no, sir! Move up they wouldn't, and the premiums that were to have been taken, and the proceeds that were to have lined my pockets, and the glory that was to have made illustrious the name of Novice, are, and I am afraid *will be* minus.

However, I don't throw away my gun for one snap, and before Fall I may sing a different tune about foundations. R. L. JOINER.

Wyoming, Wis., July 15th, 1876.

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Bees are doing well this season. So far, it is the best season we have had for ten years. Why do bees run all over the outside of the hive? Sometimes they seem all quiet, then another stock will start up and chase all round the hive. I have 1 queenless hive; they do not run around so. None of the bee-keepers here can give any reason for their doing so.

G. DREW, Bunker Hill, Ill., July 10th, 1876.

We can give no reason for the bees clustering on, or running over the outside of the hive, unless it is the very warm weather; and perhaps thin hives that are exposed to the sun. Are you sure they have plenty of room to work inside? After the honey harvest is over, and there is nothing especial for them to do, they sometimes have a queer fashion of scraping off the surface of the wood around the entrance by running backward. When a number of them are doing this together, their appearance is so singular as to call forth much inquiry from visitors.

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Bees have done very poorly in this section. The sourwood, usually our main dependence, is an entire failure. C. L. STRATTON.

Knoxville, Tenn., July 17th, 1876.

A. I. ROOT, *Dear Sir*:—The difficulty now is, comb foundations. Three out of four of mine bulge and melt down. The heat of the weather and the bees stretch the foundation to double its original size. I have had foundations from several persons; that from King & Slocum, was heavier and thicker than others and gave me more trouble. I have no difficulty in putting it in the frames; take heavy pasteboard and cut just size inside of frames, using beeswax and rosin to fasten it. The comb you sent me from the bees is the finest specimen I ever saw. Comb foundations are a success, and will do wonders when we overcome these small difficulties. It will not do to send by mail; that you sent me was broken wherever creased. I do not complain of it for I used it in boxes. The failures are more useful than the successes; we rarely hear both sides.

Everybody and his wife are down on the hoop hive, but the longer I use it the better I like it. The surplus arrangement (hoops on top) can not be beat. I should put two or three hoops above the boxes for ventilation. This hot weather is sure to melt comb in boxes in the sun but an inch from a heavy board cover. My bees have done well. I bought 20 American hives from King & Slocum this spring and have them about full. I like the size of the American frame, but not the closed bar. I shall want 20 hives and an extractor next season, neighbours as much more. I do wish we could decide on a universal frame.

Does it make any difference which way the cells run, in putting in the foundations? The strips I used for guides in frames, work well; they build straight combs and lose no time. I secured one Langstroth comb by leaving in the pasteboard; they worked out the other side which stiffened the whole, with but little bulge. I cut off the bottom bulge three or four inches from the American frames. The foundations then stretched enough to fill the frame. I experiment continually, and with some care. Twenty years of my life were spent in practical chemistry. Prof. A. J. Cook writes he has no trouble. Nellis Bro's say experience is wanted with them, to recommend a remedy. If the old hands don't know, what may be expected of us green hands? Cook is mistaken when he says any one can make their own hives; no two will be alike. I have never seen a mechanic and a genius made out of one piece of stuff. Brains and tools are quite different. Webster stated correctly, that the bottom was full of lawyers. How many bee-keepers are at the top?

Thy friend, CHAS. J. QUINBY.

White Plains, N. Y., July 6th, 1876.

The specimen of comb built from the fdn. that our friend admires so much, was prepared to send to the Centennial. A full sized sheet was put in the frame, and we succeeded in getting it built up with very little bulging; if we can be sure of *pure* white or even yellow wax, we think we shall have no trouble in doing this every time. When the latter is clean and nice, we think it equal in every respect, except in looks.

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DEAR NOVICE:—I am glad to see you say a word in favor of Mr. Dadant and the dark colored Italians. I have none of Mr. Dadant's imported queens, but I have a number of daughters from one of his imported queens, and I am free to confess both the queens and their workers are rather dark, yet they are quiet and easy to handle and the queens are the most prolific, and their workers are the most industrious and best honey gatherers of any I have ever owned. I have a number of as yellow queens as any one could want and their workers are beautiful to look at. But for rousing big swarms and piles of honey give me the dark leather colored ones always.

White clover has been in bloom for nearly a month and bees have done well on it. I believe there are 50 acres of it within one mile of my home and so thick it makes the hills look perfectly white. But the bees are now leaving it for basswood which is just coming into bloom. Should like to try some of the artificial comb, but must wait till the bees earn it. Am looking out for a big yield of honey from now until frost comes. There are three or four acres of buckwheat sowed within a few hundred yards of my house. Won't it be fun when it begins to bloom.

Hurrah for Master Ernest and the rake and all the rest of the little folks for that was well done. How is little Blue Eyes? Shall want her picture again pretty soon to see how she looks.

ALFRED MCMAINS, Chariton, Iowa, July 5th, '76.

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I had fair success the past season in wintering my bees, but some of them starved this spring; I fed some of them but it was all the same, they soon dwindled away. I often wonder how our most prominent bee-keepers can recommend feeding early in the spring, but when we look up their success year after year, we find they don't have large apiaries, nor do they sell many bees. I had good swarms the first of April that were short of honey. I gave them sealed stores and in three weeks they were all gone except the young bees (the same as Novice's); but my large hives holding from 2500 to 4000 square inches that had plenty of stores in the fall were hanging on the outside of their hives the first of May. They commenced swarming May 12th, have had 70 swarms from 85 old stocks.

If it keeps on raining we will have as much sour honey as friend Heddon usually has, but I have never yet had any extracted honey to sour. Now that reminds me of little circumstance that happened here last fall. Mr. H. came through here selling honey at 30c; he was told that it could be bought much cheaper near home but he finally persuaded his customers to take his honey, for he made them think that all cheap honey was unripe and would sour. This honey is on hand yet and I am selling at from 10 to 15c and making 200 per cent on money invested. Wouldn't Mr. H. do better selling patent rights? K.

Saranac, Mich., July 4th, 1876.

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I commenced in spring with four hives and have increased to nine. The season has been a good one. White clover is plenty, more so than it has been for many years. Which do you prefer, using the extractor or top boxes?

CYRUS MCQUEEN, Buena Vista, O., June 24th, '76.

Depends altogether on what prices are offered for extd. The foundations now, seem to promise a means by which comb honey may be produced much cheaper, and with more certainty than ever before.

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Our bees are doing splendidly on white clover; we never knew a better crop than now and there's plenty of honey in it. We have 18 colonies at this time, 9 of them natural swarms. Last Friday we extracted 180 lbs. of honey, and expect to get as much or more this week.

MRS. COATS, Columbus, Ind., June 6th, '76.

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An average hive on my scales registered 71 lbs. at 8½ P. M. yesterday and 77 lbs. today at 7¼ P. M. June 2d; the best by 2½ lbs. that I ever had an average colony do, all white clover. H. F. SMYSER.

Windsor, Ill, June 2d, 1876.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," have a friendly chat and feel "at home."]

## CHAPTER XXV.

A FEW days ago we had a number of section boxes full of honey in the store, and straightway the flies congregated about them in such numbers as to almost disgust us with— flies if not comb honey. After they were hastily piled into a glass show case—it was the section cases we were thinking of, but if we recollect aright a good many flies went in along with them,—we got to thinking about flies and not knowing any better way to vent our spite at them, we concluded to write them up in our journal. We hope they will carefully ponder the subject, and go off in the woods or somewhere else while there is yet a chance to retreat quietly.

Flies are shockingly disregardful of all efforts at neatness and cleanliness and there is nothing in the world that makes us homesick so quickly as to find flies in undisturbed possession of every thing and every body about the premises. Dust is bad enough but that can be brushed off, but "fly specks"—every time we have a trial of our patience in cleaning up any piece of work, we mentally make huge resolves that hereafter they shall be "fenced out," just as we used to do when the poultry invaded our apiary. Besides our other reasons there is a bald spot on the top of our head, and the flies apparently having discovered that it annoys us very much indeed, persist in making it a promenade ground. Do you know what a comfort it is to have all the doors and windows open during this sultry weather, and still have every single fly and musquito outside? Very likely you made the discovery a long while ago, but trusting that it may give some one a hint, we will tell you how we have our home arranged. In place of the lower sash to the windows we have similar ones covered with tinned wire cloth, such as is used for queen cages; musquito bar or tarletan will answer, but the wire cloth is not easily injured, and if tinned, will not rust though drenched with rain. Should the weather turn very cool, the usual sash can be replaced easily. Our outside doors are similarly protected by a light door frame that is hinged to swing outward. So far all very well, but the children and papa too *would* forget and leave the doors open, and in would come a drove of flies that it required much time and trouble to banish. As this state of affairs was very conducive to unpleasant thoughts, if not unkind words, mamma finally devised an arrangement whereby the light doors would close themselves; and that part of the domestic machinery now works "lovely," if we may use the expression. The closing arrangement is simply a cord running through a ring on the door post, and a small lump of lead is the weight that draws the door shut. The leaden weight may be made ornamental by making it the centre of an ordinary tassel.

Flies are not the only little annoyances in this world, and perhaps if we look at them in the right way these little annoyances are beneficial after all, in a certain way. I have sometimes wondered if it were not those who have an unusual amount of brain work to do, that feel these annoyances most. I am much in the habit of looking forward and planning my work when much is to be done, that I may do a great part of it automatically as it were, and at such times any little hindrance, such as a door that sticks, or a gate that is troublesome to fasten, uses up energy and worries more than the real work that is to be performed. One may get along smoothly and easily by having only a very little to do, and taking plenty of time to do that little; but in that case they must be satisfied with small results, and if they are working for a salary, with but a small salary. We all have just about so much energy to expend daily, and if we get worried and fidgetty, perhaps we shall waste a great part of that. In view of this, it is of very great importance that these little points be looked after.

In the first place it behooves us to commence our duties with a good temper, and with a resolve to take such annoyances as may come up, heroically, if that is the proper word, and to be courageous, patient and strong; and then to coolly decide how many of these things must be borne, and which ones may be remedied. It were well when doing this to be very careful that we have all charity, and make all allowance possible for the delinquencies of those about us. As an illustration; suppose a spring is broken in the lock to your door, and you are too busy to see to it. You hastily direct your young hopeful of 12 or 14 to get a screw driver, take off the lock, and carry it to the smith who repairs such things. At dinner time the door is kept shut by a piece of furniture, as usual, to the annoyance of all, and you ask why the lock has not been fixed. Your boy has been off at play and has never thought of it. At supper time the door is in the same fix, and you are told the screw driver is lost. To make sure, you "scratch round" and find it just where you left it, out by the bee-hives; you finally proceed to take off the lock, but the screws are rusted in, and won't turn. Patience is a manly virtue, and you mildy ask for the sewing machine oil can. When it comes you find that every drop has been squeezed out of it, and, hurried as you are, there is no other way than to proceed quietly and fill the can from a bottle. You start carefully, but soon a little goes over on the side of the can, it will have to be wiped off, that is all; but when it goes over the other side, and than clear over on the carpet as the can gets full suddenly, you almost begin to wish you had never thought of touching door locks or oil cans either. With the aid of a newspaper the oil is sopped up, your hands are washed, and now for the stubborn screws. Although the screw driver does turn round in the handle, and finally drops out entirely, you finally get the lock off; and next day it is sent for the new spring. When once more in place, the spring is found much weaker than the old one and after about two days service, breaks. Off goes the lock again with a request to the smith to put in a better spring; this he does, but when the lock is in place, it is found that another spring has been lost or left out, and the result is that the door is found locked about half the time when it is to be opened. There are two ways of proceeding in such cases: one is to call your boy up before you and tell him sternly that you will teach him that when *you* tell him to do a piece of work, it is not to be forgotten. You can tell your wife that it is a shame to have things lost in that way, (before you discover that you lost them) and that it is shiftless to have oil cans empty, or screw drivers loose in the handle, and then if you will go and give the smith a blowing up for doing *his* work so heedlessly, you may feel that you are doing your duty as every good citizen should. I say you may feel that you have done your duty; on the contrary, I think you will feel very much as if you had done something to be ashamed of.

Suppose instead, when you found the door was out of repair, you had taken the opportunity of explaining to your wife and children just how such locks were made, and to be sure to make no botch before your audience—if you pay them the compliment of consider-them an audience, they will very likely return it by considering you a professor—you will provide yourself with well made strong tools. If the oil can needs filling, tell the young hopeful that it requires a very skilful boy to do such work without soiling his clothes or fingers; that you hardly expect one of his age to do it, but that he may try. Tell him to take both bottle and can out on the grass, for fear of accidents, and with mamma and sisters for spectators, he will be very likely to succeed. With 3c. worth of brass wire, you can repair the lock yourself, if you are used to "being useful;" but if it be neccessary to send it to the smith, I fear it will be best for you to take it yourself, and to examine it carefully before taking away, to be sure it is all right. It is true there are workmen who make it a business to see that every little thing even down to a door lock is repaired faithfully and honestly, but the number is so few, and they so quickly rise to more important work, or rather to work that commands better pay, that I fear we shall have to see to such little things personally, if we wish to have them right. With children especially, we should lose no opportunity of impressing on them the importance of doing their work well; and woe betide the parent who finds it too much bother, or who cannot take the time to educate his children to this end. Suppose it does take "line upon line, and precept upon precept;" will not almost any sacrifice pay, if you can enable your child to go through the world strong and cheerful, rather than bending under a load of cares and perplexities. If your boy is forgetful, it is probably because *you* are forgetful, at least forgetful of your duty to keep a constant and careful watch over him. Not only is it a duty of yours to lift your own children above these little weaknesses, by your superior strength and cheerfulness, but it is a duty you owe to your fellow men all around you, and if you find your smith, jeweler, shoemaker, tailor, or any other tradesman in the habit of doing his work poorly, or not on time, there is a way of speaking to him about it that will give him a lift, as it were, instead of wounding or provoking him. There is a great field for this kind of work, and while you by this means make all about you happy, you take the very shortest way in the world of making *yourself* happy.

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## CHAPTER XXVI.

For if ye love them which love you, what reward have you? Do not even the publicans the same?

—Matthew, v: 46.

WHEN people quarrel, they do not love each other. There may not be any great amount of wisdom displayed in making this statement, and very likely you may think it a fact so self-evident, that it were needless to waste paper in making it. I have sometimes wondered of late, why we should quarrel at all; why it should come so very natural for us to desire to hurt or injure one who has actually, or seemingly injured us.

A fellow brought a ring to be mended a few weeks ago, and as the work was a little difficult, the clerk arranged with him that it would cost 25c. to do it just as he wished. This was while I was at dinner. When I had returned, he called for his ring, put it in his pocket and coolly started off. When asked about the pay, he said he had paid the clerk. Very shortly the clerk came in, and I found he had not paid at all. A mere trifle is 25c. but to think I had taken his word and been humbugged in such a barefaced way, stirred up, before I was hardly aware of it, the old temper—or *tempter*—and as I hurried to the door, I saw him just climbing into his wagon, before the door of a neighboring saloon. Bareheaded as I was, I started with a determination of pulling him out of his wagon, if I could not recover the money I had been defrauded of otherwise, just because I could not consent to be "run over" in that way. Conscience just then began pleading,

"Steady my boy! Is the course you are bent on just the one you would teach in your Sabbath school?"

"But I want to teach him to respect the property and rights of others."

"But are you at present in the right mood to do it? You noticed the poor fallen brother was partially intoxicated; is not the saloon more to blame than he?"

I did not run after the man, but there was for some little time visions of the exquisite pleasure it would be to tumble him out of his wagon into the dust, or to smash that saloon all into splinters, or "spile" something somewhere after the old fashion before I commenced teaching "good for evil" to the little boys and girls; and in vain did conscience keep saying that the whole matter should be treated as if it were 25 cts. that I had carelessly dropped into the fire.

Whence comes this feeling that we see so painfully manifested when two neighbors get into a quarrel, a controversy, or perhaps a lawsuit? Both strain every nerve, and leave no stone unturned, to make out something against the other. An amount of energy and talent too, many times, is wasted and in striking heavy blows at each other, that would suffice to build not only schools and churches, but rail-roads and steam-boats; and the most lamentable part of it all, is that it is oftentimes the very best friends, nay, even loving brothers and sisters that thus quarrel. When this subject is mentioned, almost everybody is ready to assent that such is the case, and still more, many seem to think that it must be the case, for in all the attempts they have seen made to make peace, nothing could be done with the parties. Amid families of the highest respectability, the most talented and best educated, and with sorrow I say it, even among church members and in rare cases among ministers, we find troubles of this kind that seem as hopeless of removal as the very hills themselves.

A great many troubles and disagreements grow out of mere business transactions, and I have wondered whether much of it was not caused by the idea that many of our people seem to have, that every one must "look out for No. 1," and that he will be cheated out of every thing he has, if he does not keep his own interests uppermost, in all his dealing. Perhaps I shall get into deep water, in what I am going to advise, but at any rate I will hazard giving you a little of my experience. I shall take pleasure in doing so, because it pays a compliment to my fellow beings. Many people are fond of calling the world selfish, scheming, and dishonest; I have found them liberal, pleasant, and accommodating, and many times where I have been sadly at fault, very indulgent.

Shall I tell you what it is? what kind of a philosopher's stone I have found that will draw out peoples' better qualities? I will try, for I love to speak well of the kind good friends I have found away in distant States, and in many by places where I may in all likelihood, never have the pleasure of seeing them at all.

Well, my philosopher's stone is simply a plan of allowing your opponent to decide all difficult points, just so soon as you discover there is coming up a difference of opinion. If he is a bad unscrupulous person, make up your mind you are going to lose, and after stating the matter as kindly and pleasantly as you can, tell him you will leave it all with him, and then give him to the very letter, just what he claims. Many times it will seem for a verity, casting your bread upon the waters; but do it cheerfully, and try to think what is your loss, if loss there be, will be his gain, or at least a gain somewhere on the wide waters of humanity. Please do not for an instant, get the idea that I would approve a reckless throwing away of one's property, for I would advise the utmost frugality in every respect, and a careful economy and looking after, of the smallest item. To illustrate: One of our readers proposed to sell bees, and asked what had better be said about giving satisfaction. I advised saying all transactions would be made satisfactory. But said he, "If they happen to be notional and are not pleased, what then?" I advised that he should in such a case, explain things as well as he could, but that if the explanation would not be received, tell them to send in bill for what they thought right and proper, and then pay it cheerfully.

His reply was a positive refusal to do business in that way; a way that seemed too much like opening one's purse to whatever amount the "greedy" world might choose to take. More than one of my readers can recall where I have, to prevent hard feelings, or possibly misunderstanding, left a matter in question entirely to their own sense of what was right, and I have as yet no reason to feel that I have been robbed. On the contrary I have many times been astonished at the very liberal way in which they have consented to be satisfied, when just before, they had seemed especially difficult and hard to please. The very act of giving up, and surrendering your own rights, seems to have a magic power in calling out peoples better selves, where they have been gradually led into some controversy or quarrel.

Another thing: if we commence doing business with a purpose of making every body satisfied with every thing we send out, we shall very soon discover that it will not pay to allow any thing poor or even indifferent to be sent away, and that we shall be obliged to inspect every package with something like the care and precision we would if we were going to send it to a brother or sister, or to some very dear friend, whom we would be careful to please. It is a very hard matter to do this where a business necessitates many hands, and we are at this minute conscious that very few of the goods we sell are *just* what we would like, or expect to have from others.

Do you care to know how we have fared by trusting our customers to make out their own bills for damages, and paying them cheerfully? In some cases we have paid for things feeling that rather too much was being asked, it is true; but were amply repaid by feeling the matter was all closed up pleasantly; and in several cases, much to our surprise, the money was returned to us months afterward. In one case it was after the lapse of over a year, and the person who sent it did it of his own free will, without a word having been said on the subject, meantime. Is it not possible, dear friends, that mankind has never yet learned of the reward that awaits those who try to follow the teachings of the little text,

> And if any man will sue thee at the law, and take away thy coat, let him have thy cloak also. Mat., 5:40.

## Notes and Queries.

LET me warn you against your method of exchanging brood comb from different hives with clustering bees. It won't do, especially with "Novices." The system does well enough, but too often more than one queen will get on the comb and thus you damage your hives materially. A better way is to take your combs without bees and exchange places with a populous stock, securing its queen. This gets all the advantage of its *full working force*, with a hive full of comb, and in extracting from such a hive but little diminution in honey will can be seen. Also dividing hives can be done as late in the honey season as one wishes. RUFUS MORGAN.

OLD FORT, N. C., July 1[illegible] 1876.

[Quite right, friend M., and we intended to give the warning you speak of. If the queens are found before removing the frames of bees, we shall be perfectly safe. Your plan is a severe check on the colony removed, and also neccessitates lugging hives about, something *we* like to avoid. If you get bees from frames in the upper stories, containing no brood, you will seldom get a queen, and with 3 or 4 frames of hatching brood, a very few bees will soon make a good colony.]

A friend succeeds finely with the yellow foundations sent by Perrine, and what surprises me is that the bees bleach them as white as the comb they make from clover.
J. L WOLFENDON.
Adams, Wis., July 5, 1876.

I want something that I can examine any small thing with, without having prepared objects. If your compound microscope will do that, I would like to have one.
T. B. PARKER.

[To be sure, you can examine anything you wish; the only reason why we advertise prepared objects, is that they soon decay if they are not preserved in some way. Again, it is something of an art to prepare any part of an insect so as to show to the best advantage, and have it perfectly protected from the air and dust; yet you or any one else can learn to do it, with proper instructions and practice. If you wish to do much work, you had better have the book we advertise, "How to use the microscope."]

I have two thousand lbs. clover and bass-wood honey. Will take 12 cents for it. R. S. BECKTELL.

My foundations *seem* a success. *Better* than "movable frames." JAMES HEDDON.
Dowagiac, Mich. July 19th, 1876.

[Very glad to hear you say so, and we have strong hopes of being able to convert you to movable frames also, ere long, friend H.]

The extractor works to a charm; it surprises all who have seen it, and is as much of a curiosity to my neighbors, as a white man is to the natives of Africa.
C. MCQUEEN, Buena Vista, Ohio, July 21st, 1876.

I have run my bees up from 52 to 130 but have little honey. Have sold to-day, 18 stocks for $90.00.
CHARLES WILKINS, Ott, Or. July 11th, 1876.

[If you do not use hives that are too expensive, even $5.00 per colony will pay at this season, will it not friend W.?]

Please take out my name from among the list of $1.00 queens. Cannot fill half my orders. The white clover is immense. J. K. CROSS.
Valparaiso, Ind. July 8th, 1876.

[Do you not see that it pays to advertise?]

I would just say for the benefit of those that are bothered with ants in their hives, that I have tried every thing that has been recommended and all did no good. My "better half" suggested trying salt, I put some around the bottom of my honey boxes where they trouble the most and don't you think they took the hint and left and I haven't been troubled with any since. N. W. KERSHAW.
Hope P. O. Franklin Co. Ohio.

FOR SALE!

Fifty (50) fine colonies of Italian Bees, in Quinby and Langstroth hives. Price, $10 each or 2 colonies in 1 Quinby hive $19—if sold at an early date. W. G. SMITH.
3119 Vineyard Street, St. Louis, Mo. 8d

FOR SALE!

Italian and Hybrid Bees for sale, in Quinby and Langstroth hives. Price, $10.00 per colony.
Hart, Oceana Co., Michigan. HENRY PALMER.

Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

IF WANTED BY MAIL. ADD 25 CENTS PER POUND FOR PACKING BOXES AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 10 cents per pound.

We will pay 33 cents per pound cash for bright yellow wax, or sell it for 36.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter (enough for 1 Universal case) weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over. A. I. ROOT.
Medina, Ohio.

BOX HIVES AND BLACK BEES.

Pursuant to returning to the box hive system. James Heddon, of Dowagiac, Michigan, will sell his Glenwood Apiary, at the following prices, to-wit: 80 colonies of Italiae Bees for $610, all in 8 frame (Standard) Langstroth Hives, of best pattern; 28 colonies of Italian Bees in 9 frame Oatman hives for $224. These Bees are nearly all pure, carefully bred, *perfectly healthy*, and will be sold only in two lots, as named above, and to purchasers on the ground. For further particulars, address,
Dowagiac, Michigan, JAMES HEDDON.

50 CHOICE QUEENS!

Now ready for shipment. All of these queens are producing extra, bright colored, vigorous workers. Address,
J. A. BUCHANAN.
Wintersville, Jefferson Co., Ohio. 8d

Italian Queens.

No Black Bees in our Vicinity.

Queens bred from choice imported or home bred mothers warranted pure, each $1.00. The same queens, *warranted purely fertilized*, each $1.50, or one dozen for $15. Our home bred queens are very beautiful. (Albino stock, if you choose to call them so). All queens are reared in full stocks. Sent post-paid by mail. Safe arrival guaranteed. Much useful information in our circular. Send for it.
J. H. NELLIS & BRO., Canajoharie, N. Y.

"VINEYARD APIARY."

*AGAIN WINTERED SUCCESSFULLY.*

Tested queens or full colonies furnished again this season in my Non-Patent Hives. No useless traps or fixings about them. Send for Prices.
4t8 JOSEPH M. BROOKS, Columbus, Ind. Box 130.

ITALIAN BEES.

ITALIAN QUEENS bred from imported mothers—a month earlier than in the North. Purity and safe arrival guaranteed. Also full colonies of Italians in Langstroth hives for sale at $15.00 per colony.
Address DR. J. P. H. BROWN, Augusta, Ga. 8inq

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of his responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

## IMPORTED BEES FROM ITALY.

We continue to import bees from Italy, every two weeks during the season, as we did last year; and we offer them for sale as usual.

| | |
|---|---|
| Prices: Imported Queen | $10,00 |
| Home bred (tested) | 5,00 |

We guarantee safe arrival of queens. We can furnish to our customers the best references among the most noted bee-keepers of America and Europe.

We sell none but healthy and prolific queens. We wish the reader to bear in mind that *nine-tenths of the American queen breeders are now breeding from queens imported throuh us.* Many of them purchase imported queens from us *every year.*

If necessary we will give to those of our customers who wish it, evidence that we receive 22 queens from Italy every two weeks, during the season, from May to Oct.

Our customers are authorized to send back all queens with which they are not satisfied, and we will return the money and express charges, on condition that they will send us an affidavit that the queen is the same that they received from us.

Address, CH. DADANT & SON,
Hamilton, Hancock Co., Ill.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

## $1.00 Queens.

*Names inserted in this department the first time without charge. After, 10c. each insrtion, or $1.00 per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions; No guarantee is to be assumed of purity, safe delivery or any thing of the kind, only that the Queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

| | |
|---|---|
| G. W. Dean, River Styx, Medina Co., Ohio. | |
| *J. Oatman & Co., Dundee, Ills. | 3t2 |
| *Dr. . P. H. Brown, Augusta, Georgia. | 9t1 |
| *E. W. Hale, Wirt C. H., West Va. | 6-6 |
| *J.M.C. Taylor, Lewiston, Fred. Co., Md. | 1t1 |
| *T. G. McGaw, Monmouth, Warren Co., Ills. | |
| *J. Shaw & Son, Chatham Center, Medina Co., O. | 5 7 |
| *J. H. Nellis & Bro., Canajoharie, N. Y. | |
| Miss A. Davis, Holt, Ingham Co., Mich. | 5-12 |
| *Aaron I. Weidner, Bigler, Adams Co., Pa. | 6-12 |
| J. B. Dines, Libertyville, St. Francois Co., Mo. | 6 |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| *P. H. Gibbs, Guelph, Ontario, Canada. | |
| *Staples, Andrews & Vaughan, Columbia, Tenn. | 7-11 |
| *W. P. Irish, New Portage, O. | 7-12 |

## Bees for Sale.

We, whose names appear below, agree to furnish bees as follows: A two frame nucleus, full of brood and bees, with tested queen, for $6,00, or the same with $1,00 queen for 4,00. Where five are ordered at one time, $1,00 less on each nucleus; * names, use only imported mothers.

| | |
|---|---|
| *E. C. Blakeslee, Medina, Ohio. | 6-tf |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| *J. M. C. Taylor, Lewiston, Fred. Co., Md. | 7-1 |
| *Aaron I. Weidner, Bigler, Adams Co., Pa. | 7-10 |
| *Wm. J. Andrews, Columbia, Tennessee. | 8tf |

## Hive Manufacturers.

| | |
|---|---|
| A. I. Root, Medina, Ohio. | |
| J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| M. S. West, Pontiac, Mich. | 6-5 |

MUTH'S ADVERTISEMENT.

## HONEY JARS.

| | |
|---|---|
| One pound (square) Jars, per gross, | $6.50 |
| Two " " " " | 8.50 |
| One " " " Flint glass per gross | 9.00 |
| Two " " " " " " " | 11.00 |
| Corks for 1 and 2 lb. jars | .75 |
| Tin Foil Caps, per gross | 1.20 |
| Labels, " " | .75 |
| A thousand labels address printed to order | 5.00 |
| One qt. fruit jars, Mason's patent, per gross | 18.00 |
| Labels for same, " " | .65 |
| A thousand labels address printed to order | 4.00 |
| Uncapping Knives, as good as any, each | .50 |
| " " per doz. | 4.50 |
| Alsike Clover Seed, per bushel | 13.50 |
| " " " " peck | 3.50 |
| " " " " pound | .40 |

## LANGSTROTH BEE HIVES,

Straw Mats, Bee Veils etc., at reasonable rates.

For further particulars, Address,

1tf CHAS. F. MUTH, Cincinnati, Ohio.

**THE BEE-KEEPERS' MAGAZINE,** an illustrated monthly journal of 32 octavo pages, devoted exclusively to Bee-Culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper and experienced Bee-Keepers in AMERICA and EUROPE. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine 1 year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with *prize* essay of Mrs. Tupper, Queen Rearing by M. Quinby, instruction for beginners, etc., sent *free* with the MAGAZINE, on trial, 4 months for 50 cents. Agents wanted—Cash commission and permanent employment. Address,

KING & SLOCUM, 61 Hudson St., N. Y.

**MISS S. E. FULLER,** *DESIGNING AND ENGRAVING ON WOOD,* 25 Bond Street, Room 3. N. Y. Awarded Medal of Merit at Vienna Exposition, 1873. Orders by mail promptly executed, at reasonable rates, from sketches or photographs. Electrotypes supplied.

## Material for Langstroth Hives.

Including 10 frames and 7 inch cap, cut ready to nail for 80c., in lots of 30 or more. *Kiln dried pine lumber used.* Address J. OATMAN & CO.,

3-4p Dundee, Kane Co., Ill.

## THE BEE WORLD.

OUR Bee Journal of the Southern States. Issued monthly at $2.00 per year. Sample copies free.

Address A. F. MOON & Co. Rome, Georgia.

## THE

## British Bee Journal

IS A LARGE, Beautifully Printed, and Profusely Illustrated MONTHLY; Clear Type and Fine Heavy Paper.

It is conducted by CHARLES NASH ABBOTT, Hanwell, W., London, England. Annual Subscription, Half-a-Guinea.

We will send it with GLEANINGS and pay all postage for $2.50.

## Queens. 1876. Queens.

I shall have for sale to Bee-keepers the present season, Choice Tested breeding queens. Raised in full stocks, from selected Imported Mothers. Price,

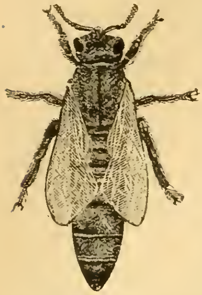
| | |
|---|---|
| One queen | $4,00 |
| Two " | 7,00 |
| Three " | 10,00 |

None sent by mail.

4-10 Address JAMES LA BARE, Cincinnati, O.

**TEA-KETTLE BEE-FEEDERS,** large enough to feed 18 lbs. at a "dose;" with it, enough can be given in one day, under *favorable circumstances*, to last over winter. Price reduced to 75c., or $1.00 by mail. Quart (3 lbs.) feeder, 10c.; by mail 16c.

A. I. ROOT, Medina, Ohio.



QUEENS FROM THE SOUTH!

Italian queens furnished the coming season at the following prices:

| | |
|---|---|
| 1 Tested Queen | $3,00 |
| 6 " " | 15,00 |
| 1 Untested Queen | 1,00 |
| 6 " " | 5,00 |
| Full colonies in Langstroth Hives | $12,50 |

☞Safe arrival of *all queens* guaranteed.☜

Purchasers must assume all risk in the transportation of full colonies.

As prompt attention as possible will be given to all orders, and *satisfaction guaranteed.*

7tf-v Address, RUFUS MORGAN, Old Fort, N. C.

Queens and Nuclei from an Imported Mother.

Ready to ship by June 20th. Price of tested queens $3,00; warranted $2,00. Nuclei with tested queen—two Langstroth frames with plenty of brood and, $6,00 each or $25,00 for five. Full swarms with warranted queens in Langstroth hives $12,00, or ten for $100,00.

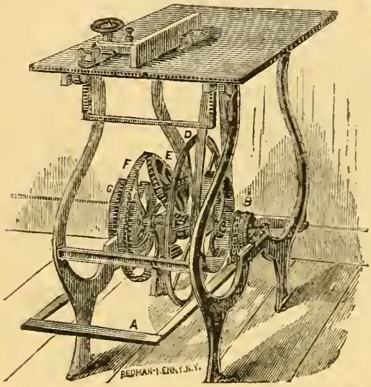
6tf E. C. BLAKESLEE, Medina, Ohio.

CASH FOR BEES-WAX.

We are paying 32 cents per pound for yellow beeswax, in lots of from 50 to 5000 or more pounds, delivered at Syracuse, or 33 cents, if exchanged for white wax. If you have any wax on hand, and can deliver it at the above price, please do so, and we will send you our check on receipt of the same.

Respectfully yours. ECKERMANN & WILL.

7tf Wax-Bleachers, Syracuse, N. Y.



MAN-POWER SAWS.

*EVERY BEE-HIVE MAKER SHOULD HAVE ONE!*

**Will Rip, Cross-Cut, Mitre, Rabbett, Groove, and Other Work.**

*Every cut is a Glue Joint. Easy to Work and EASY TO LEARN.*

**4080** Per Minute against 480 the Best ever done by the Old Mode, and *Speed is Power.*

With them the EMERY WHEEL can be used as *well* as with Steam, with Great Saving over Grindstones.

**Also, Band, Jig & Bench Saws, Boring Machines & Emery Grinders,** all for Man, Horse or Other Powers.

Address, saying where you saw this,

COMBINED POWER CO.,

**23 Dey Street, N. Y.**

W. F. & JOHN BARNES,

*Manufacturers of Barnes' Patent*

Foot-Power Machinery, Scroll Saws, Lathes, Circular Saws, Etc.

The only foot-power machinery without crank or dead centers. $1,500 to $2,000 per year made using these machines. Send for illustrated Catalogue.

**ROCKFORD, WINNEBAGO CO., ILL.**

**$11.50 AVERAGED PER DAY.**

FULTON, MO., December 14th, 1874.

MESSRS. W. F. & JOHN BARNES, Rockford, Ill.—Gentlemen: I sawed 110 frets for balustrade for portico, and 15 brackets, in first two days running. Every one who has witnessed the working of the Saw has pronounced it the most useful machine ever invented. I have been working from 12 to 16 men, and have done all my shop work (scroll sawing) on your machine, running it daily since I purchased it, and have paid nothing for repairs, except for saws, which amount was comparatively small. Three weeks since I purchased some imported woods and some nice designs, and turned my attention to fret work. I have averaged per day, since that time, $11.50. I know of no occupation as pleasant and profitable for a mechanic to spend his winter days at as the above. Your machine runs so lightly and easily that it will not tire the most delicate man after a little practice; in fact, I consider your machine indispensable to any carpenter, however small his business is, as he can introduce the little machine to his scrap pile, and make enough brackets in one week to pay for his machine. I consider my machine just as essential in my shop as a set of bench planes.

Very truly,
M. FRED BELL, Architect and Builder.

☞Address, for full information, W. F. & JOHN BARNES, Box 2,044, Rockford, Illinois.

## TERMS: STRICTLY CASH IN ADVANCE.

One Copy One Year $1.00, or with Lithograph of Apiary, size 12x16, Mailed Free, Postpaid, $1.25 or Lithograph will be sent as a Premium for Two Subscribers at $1.00 each.

Any person obtaining Three Subscribers at $1.00 each, may retain 50 Cents for his trouble.
" " Five " " " " 1.25 " "
" " Ten " " " " 4.00 " "

Any number above Ten will be sent at the rate of Sixty Cents each.

OR, GLEANINGS, $1,00; Three copies, $2.50; five, $3,75; ten, $6.00.

Names may be sent at any time during the year, and whenever a club is reached, we will credit back the amount previously sent us in excess of the Club Rates. In this way any of the

**Articles Mentioned on our PRICE LIST may be Secured as PREMIUMS.**

Please mention when names are intended for Clubs. An acknowledgment will be sent in all cases on receipt of money—for any purpose whatever—by return mail. Volumes I, & II, at 75c. each, may be counted on the same terms, as we have a

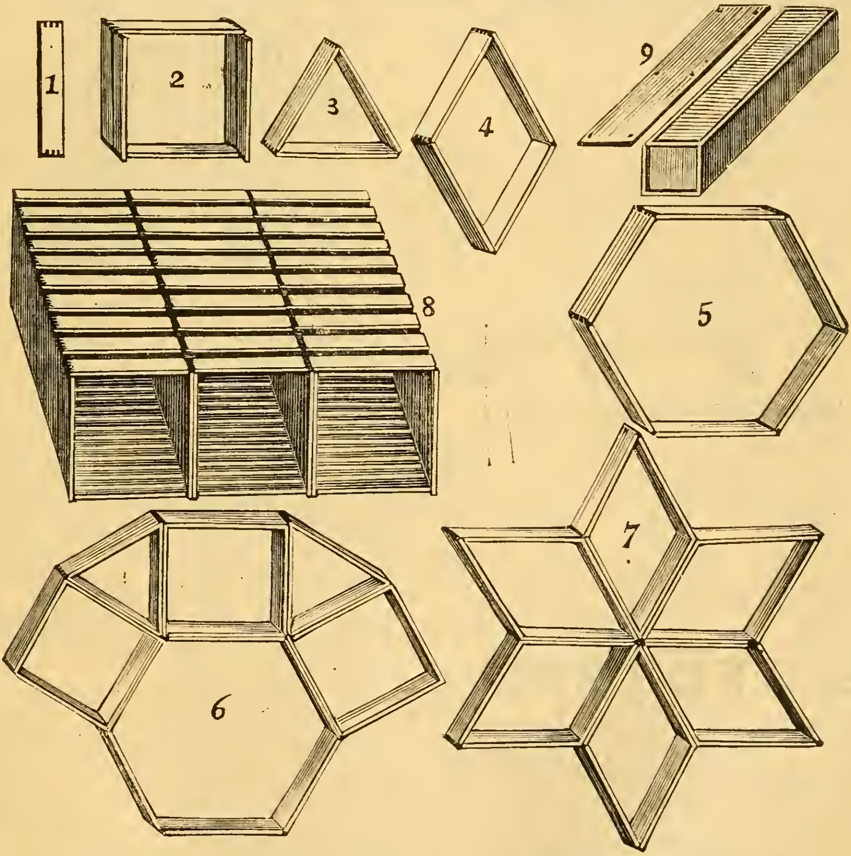
**Large Supply of BACK NUMBERS Provided for new beginners.**

As we cannot take the space in future numbers to go over the same ground again, and Volume One contains the entire Fundamental Principles and

**Ground Work for Starting an Apiary.**

# GLEANINGS IN BEE CULTURE

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.
Vol. IV September, 1876. No. 9



*The Universal Section Honey Box.*

Figure 1 shows the simple stick of which all are formed; 2, 3, 4, 5, and 7, are some of the different forms that are easily made and filled with honey by the aid of the fdn., but Fig. 2 is the principal one for the market. Fig. 8 represents 30 of these as they are to be placed on the frames in the hive, and Fig. 9 shows 15 of them in a case ready for market. For further explanation, see page 217.

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August 29th. We have to-day, 1778 subscribers.

ITALIAN BEES & QUEENS.

300 Colonies for Sale.

| | |
|---|---|
| 1 to 10 stocks, each | $8,00 |
| 15 to 25 “ “ | 7,00 |
| 1 two frame nucleus (frames 11x12) | 3,50 |
| 5 to 10 two “ “ | 3,00 |
| 1 four frame “ | 5,00 |
| 5 to 10 four frame “ each | 4,50 |
| Warranted queens “ | 1,50 |
| “ “ per doz. | 15,00 |
| Tested “ each | 2,50 |

Safe arrival guaranteed on stocks and queens. Satisfaction guaranteed.

Address, J. OATMAN & CO.,
9-11d Dundee, Kane o., Ills.

BEES FOR SALE!

Italian bees in small Gallup hives. 9 frames (unpainted) $7,50. Same in Standard Gallup hive with sample set of cases and 21 boxes (unpainted) $9,50. Same in Doolittle's improved hive with 30 boxes and cases all complete (painted with tin roof) $12,50. Hybrids $1,50 less.
G. M. DOOLITTLE,
9d Borodino, Onondaga Co., N. Y.

## IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

| | | |
|---|---|---|
| 0 | Binder, Emerson's, for GLEANINGS | 50, 60, 75 |
| 4 | Boxes, section with comb guides | 02 |
| | Balances, Spring, for suspended hive | 8,00 |
| 10 | Blocks, Iron, for frame making | 15 |
| | Barrels for Honey | $2.50 to $4,00 |
| | Buzz-saw, foot-power, *complete*, circular with cuts free on application. Two saws and two guages included. | 35.00 |
| 0 | Buzz-saws, extra, 6 inch, 1.50; 7 inch, 1,75; 8 inch | 2,00 |
| | Comb Foundation Machines complete | $125,00 |
| 20 | Candy for bees, can be fed at any season. Per lb | 15 |
| 20 | Corners, Metal, per hundred | 1,00 |
| 25 | “ “ Top only | 1,25 |
| 20 | “ “ Bottom, per 100 | 75 |

On 1000 or more a discount of 10 per cent will be made, and on 100,000, 25 per cent. The latter will be given to those who advertise metal cornered frames.

| | | |
|---|---|---|
| | Combs, empty worker in metal cornered L. frames | 50 |
| 10 | Clasps, for transferring, package of 100 | 25 |
| 0 | Cards, Queen Registering, per doz | 10 |
| 2 | Cages, “ | 10 |
| 18 | Case with Separator to hold 3 Section frames. | 06 |
| | Case of 10 of the above, 30 Section frames in all, | 1,25 |
| 2 | Cheese Cloth, for strainers, per yard | 10 |
| | Extractors | $8,50 to 10,00 |
| | “ Inside and Gearing | 5 00 |
| | “ Wax | 3,50 |
| 4 | Frames with Metal Corners | 06 |
| 5 | “ Sample Rabbet and Clasps | 10 |
| 10 | “ Closed end Quinby, nailed | 05 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | “ present “ | 1,00 |
| 40 | Gearing for Extractor | 1,50 |
| 20 | Gates, Honey, for Extractors | 50 |

### THE SIMPLICITY HIVE.

| | |
|---|---|
| One story Langs'h without frames or bottom | $1,00 |
| The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express | 2,25 |

The above is the hive we use and recommend in preference to everything else, and it contains every thing needed for all purposes except at the surplus season. If you decide to use the extractor you want an extra body and 10 frames—$1,25—making complete two story hive—$3,50—or, you can have 60 section boxes (two tiers of 30 each) in place of the 10 frames, at the same price. If you prefer the old style of glass boxes, we can fit the upper story with 18 having glass on four sides at 12½ cents each; this will make the hive and all cost $5,00.

| | |
|---|---|
| One story Q. hive without bottom or frames | 84 |
| The same with bottom, 10 *nailed* frames, division board and quilt, complete except surplus receptacles | $2,00 |
| The same with two story, 20 frames | 3,00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

A one story complete for 13 frames of either the Standard, American, or Gallup hives, will cost $2,50, and they can also be used with any of the surplus arrangements mentioned; also, as they are all deeper than the Langstroth frame, a single story can be used with fewer frames, and sections or boxes at the side of the frames. As an illustration; we can take four frames out of the one story hives above, and put in their place 18 section boxes.

| | | |
|---|---|---|
| 25 | Honey, Clover, per lb, 16c., Basswood, 15c. By the barrel 2c. less and waxed and painted barrel included. | |
| | Honey in section frames or fancy glass boxes. 25c. gross. | |
| 0 | Knives, Honey | 1,00 |
| 0 | Labels, Honey per 1000 | 3,25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp Nursery | 5,00 |
| 0 | Larvæ, for queen rearing, from June to Sept. | 25 |
| 15 | Microscope, Compound | 3,00 |
| 0 | Prepared objects for above, such as bee's wing, sting, eye, foot etc., each | 25 |
| 0 | Medley of Bee-Keepers' Photo's. (150 Photo's) | 1,00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | “ “ Double lens | 1,00 |
| 0 | Photo of House Apiary | 25 |
| 06 | Quilts | 25 |
| 2 | Rabbets, Metal per foot | 02 |
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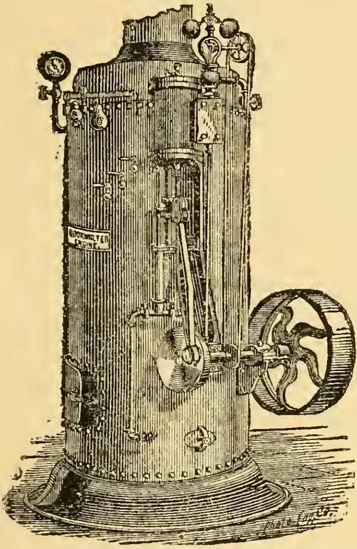

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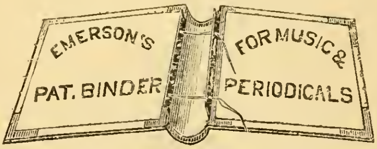

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The above are good, but are all far behind the times.

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This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

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| Manual of the Apiary. By Prof. A. J. Cook | 30 |

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# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

A. I. ROOT.
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Vol. IV. SEPTEMBER 1, 1876. No. 9.

## PREVENTING AFTER SWARMING, GETTING BOX HONEY, STORING SPARE COMBS, ETC.

FRIEND NOVICE:—If any one tells you that introducing young fertile queens to old stocks, after they have swarmed once, will prevent second swarms, tell them they are mistaken. I have practiced doing so for a number of years past, and have generally succeeded pretty well, but the present season it has been almost an entire failure; as just four out of every five of the young queens introduced, led out swarms in from one to two weeks after their introduction.

For some time past I have practiced a method to some extent that has in every case prevented second swarms; and I see the same method is now recommended by a correspondent of the A. B. J. It is simply this: As soon as you are *sure* you have the queen with the new swarm, carry the old colony to a new stand, and put the new one where it stood. True, this gives the old colony a rather forlorn and deserted appearance for a few days, as all the old bees join the new swarm on the old stand, and storing honey is stopped for a few days in the old stock. But if they gather nothing, the new swarm in the mean time will collect a double portion and thus make up for lost time, and if we only get the honey, what difference does it make where it is stored?

If the swarm is put in a hive filled with empty combs, the surplus boxes should be put on at once; but if they are put into an empty hive, wait until they have fairly commenced below, then put the surplus boxes on and the amount of honey they will store in a short time will be astonishing. If there are a lot of partly filled boxes on the old stock, that you want finished, put them on the new swarm, and the work will be done in a hurry. This method remedies, in a great measure, one of the evils of natural swarming; it prevents the bees in the old colony from filling the brood combs with honey before the young queen has a chance to fill them with eggs. Instead of being stored there, it is put in the surplus boxes on the new swarm.

Oh Novice! How could you say I wouldn't help, etc. and even intimate that I did not sympathize with the brethren when their bees *dwindled*. Didn't I write a *piece* and say all I could in *favor* of dwindling, and that bee disease? I have often heard that republics were ungrateful, but who would have thought our esteemed Editor would be so?

I would like to ask a question on the subject of spring dwindling, and it is this: Did you ever know a colony to waste away by dwindling, that had plenty of young bees in it when taken from winter quarters?

"Who will whisper words of cheer" to the advocates of extracted honey now: since Novice is not only letting his bees "fool away their time on boxes" (see page 95, Vol. II.) but is even furnishing sectional frames etc. to help others do so? And now to make matters worse Mr. Heddon is going to advocate box hives and comb honey, although it would have cost him the 4500 lbs. of extracted to have had the 500lbs. of comb honey finished, a few years ago. Oh, well! If he can prove that box hives, black bees etc. pay best, I shall certanly adopt them.

I can easily see the point in friend Martin's remarks, about losing some of my bees; but my hands were really not folded at all, they were full of carpenter's tools and farming implements. Hereafter I will try and let the above named incumbrances drop, and attend to my bees, so that if I have found my Leipsic, I will try and avoid my Waterloo.

I had several hundred frames of empty comb last spring, and as much of it was bought of neighbors who lost their bees last winter, and had left the hives containing it standing on the summer stands until I bought it, which in some instances, was after the weather became quite warm, it was full of the eggs of the moth miller, and worms soon made their appearence. For some time I was at a loss as to how I could best arrange so many combs to fumigate them. I finally went to work and ripped out strips of inch lumber two inches wide for the inside pieces and one and a half wide for the outside ones. I rabbeted ½ inch square out of two corners of the two inch strips and one corner of the 1½ inch strips. I then nailed the strips in parallel lines, with the rabbeted sides up, securely to the ceiling overhead, at such distances apart that the top bar of my frames would just pass between the parts left after the rabbeting was done. The frames hang on these strips the same as they do in the hives, are out of the way when not wanted either summer or winter, are easily put up or taken down by simply moving one end a short distance either way, and best of all, are in the most *comfortable place* when I close the ventilators, windows and doors, place a kettle half full of live coals in the room, and throw a pound of brimstone in it.

In the above way by a half day's work I provided storage room for over 1000 combs and it is out of the way and always ready for use, when wanted. JAMES BOLIN.

West Lodi, Ohio, July 19th, 1876.

[We have repeatedly had colonies die of spring dwindling, even with plenty of young bees, though not so many as to make a hive full. We never knew a hive *full of young bees* to suffer in that way, or in any other scarcely. The plan given for disposing of empty combs where house room is scarce, is most excellent, and we tender you our thanks for the idea. The plan for prevention of after swarming is, we believe, quite successful.—ED.]

## HIVES USED BY OUR LEADING BEE-KEEPERS.

FRIEND NOVICE:—I am looking for your description of the leading hives in use. I do not care what hive "Blasted Hopes" used, but I want a description of the hive that such men as Doolittle, Palmer, and those who are making money out of bees, use.

JOHN A. KING, Janesville, Minn., July 24th, '76.

The hives used by the large bee-keepers are, we believe, very plain and simple. Those used by Adam Grimm, were the ordinary Langstroth with a portico, like those in general use, except that they were made for 8 frames instead of 10. The dimensions of the frames are about the same as those given in our list of diagrams. The lower story is only a simple box of such size that the frames hang in it so as to come about ⅜ of an inch from the bottom and sides. The upper story is simply a box open at the top and bottom, and large enough to set over the lower; being therefore large enough to contain one more frame. When the hive is used for shipping bees, the upper story is omitted. Our friend Bolin uses principally, the same hive made wide enough —14¼ inches—to hold 10 frames. Mr. Doolittle uses the small Gallup frame, 11¼ inches square, and without ever having seen his hive, we can only say we suppose it to be about as simple as those mentioned above or still more so, as he uses no portico, if we are correct. The Gallup hives are usually made 18 inches long, or so they will contain 12 frames, but we believe friend D., uses and advises, a hive with but *nine* of these small frames. We might object a little to having hives so very small, were it not for the invariable success that attends his apiary; in fact we do not know that we have a single bee-keeper who has made the yields of comb honey per colony, that Mr. Doolittle has. Our friend Davis of Holt, Mich, uses about the same hive and frame, and he too, has made astonishing crops of honey .Capt. Hetherington, L. C. Root, and many others in Mr. Quinby's neighborhood use the closed end Quinby frame of, or very near, the dimensions given in our diagrams. To get an idea of his hive, suppose we have a level bottom, cleated to prevent warping. We will place 8 of these frames on the bottom board standing them with the broad upright ends close against each other. Now if the bottom board is large enough to allow of a tier of honey boxes being piled close up to each outside frame, we shall have a fair idea of the Quinby hive without the outside shell. This shell is made of four broad boards cleated to prevent warping, and having a strip of hoop iron nailed to the ends of two of them, projecting enough to enter a saw cut in the sides of the other two, about one inch from the ends. The object of this, is to make a tight box without top or bottom, and for convenience in manipulating the honey boxes the four boards are not nailed, but simply held by a cast iron corner piece, of Mr. Quinby's invention. By pushing these downward, the boards are clamped fast, but on drawing them up, the boards fall apart. These side boards are made wide enough to come above the frames sufficiently to allow of a set of boxes on top of the frames as well as at the sides. A plain flat clamped top covers all. Now when the honey boxes are all removed, it is plain that we have left a vacancy: just about what is wanted to cover them with chaff in winter. To protect the ends as well as the sides of the brood combs, Mr. Quinby directed that the eight frames be turned ¼ round for winter, thus leaving a space for chaff all round, and about 6 inches above the brood nest.

It is a hive of this description that has given us such good results the present season. In order to open a Quinby hive, we must remove the cover, and at least two of the four sides. If no honey boxes are on, we must remove the quilt or honey boards, and we are ready to pry off the first frame from its neighbor. If the hive has had bees in but a short time, and the end bars are thin, this is not very difficult, but it takes considerable time. Each of the eight frames is removed in the same way. When the hive is to be closed, you are to bring the ends of these frames together so carefully that no bees are killed. If the weather is very warm, so that the propolis readily gives way, it works much better than when so cool as to make the frames snap, when pried apart; and a great many of our bee-keepers say at once, that nothing would induce them to use a closed end, or closed top bar frame. Others after having had their patience tried with the evils of the suspended frames, prefer to go slowly and patiently, and use the former. The bad features of the suspended frames, are that the bees are always building little bits of comb outside the frames, and that there is always that useless loafing air space filled with idle bees; this space is thought by many, to be a very bad feature in wintering, and we confess to a feeling, that we would much rather have the bees on the combs, and not standing about somewhere else. Our friend Palmer of Hart, Mich., uses both the Quinby and Langstroth, and he once remarked that the bits of wax and comb built on the outside of the suspended frames, would almost build the comb to hold the honey that we get with the extractor. No matter how often we may scrape this wax off, nor how anxious we may be to have our frames clean and smooth, the next time the hive is opened, especially during a season like the present, they will be found much in the same state as before. The worst part of it, is the disagreeable propolis, and we have been to-day wondering whether they would take so much pains to collect this, if their hives were not so full of the modern crannies and corners. The same question comes up in connection with quilts, honey boards, or closed top frames. Quilts are by far the quickest, and easiest to handle, but they very soon become covered with propolis, and if the frames are not scraped often, the bees will get the wax upon them a little higher each time, until finally they will fight for the privilege of making small mounds of honey on the top bars. Friend Davis had a plan last fall, that we thought very laborious, but since we have had a season so much like those in Mich., we have begun to wonder whether his plan was not pretty good after all. It was to have the tops of the frames close fitting at their ends, and then to close up the mortise by a strip of wood laid between every two frames. These strips were covered with propolis it is true, but he, jackknife in hand, scraped it from every stick as it was laid in place. The result was that no propolis ever touched the upper side of his top bars, and we have just been feeling as if we would be willing to take a great deal of time if we could have our own frames in the same condition, namely; every bit of comb on the inside, and the outsides clean wood without any stickiness. As this is next to an impossibility with suspended frames, or those easy of manipulation, we presume we shall have to give it up; and you my friends, I presume will have to choose in the kind of hive you decide upon, the lesser of the two evils in many points.

*To be continued.*

## OUR OWN APIARY.

SOME of our friends write the bees will not work in the section boxes; well we have satisfied ourselves pretty thouroughly that they will not, at least not in a way that would be at all desirable, unless they have foundations, or natural combs for a guide. Even then, we occasionally have colonies that do not seem to comprehend what the section boxes are for, and hang on the outside of the hive with the coolest indifference. while others are doing good day's works. We are happy to say we have made a

### GREAT DISCOVERY,

that is, it would be if no one else had made it before; at any rate it is new to us and would have saved us ever so much honey if we had made it earlier, for we have never seen it fail to start the most stubborn stock in boxes at once. It is simply to take a section, bees and all,, from some stock that is working briskly and put it in the centre of the one that will not work. We in one day thus started more than a dozen, including our colony of blacks, but as they do not work on the red clover, or but sparingly, they have made but little headway.

There are to-day, bees flying once more from every one of the 34 entrances in the house apiary, and we are rejoicing in a moderate yield of honey, even though it be the 4th, of Aug. This was quite unexpected, and is quite unusual. As nearly as we can make out, it comes from red clover, and it is the full blood progeny of the imported queen, mainly, that are doing it. One colony in the house apiary are actually filling glass boxes at a pretty fair rate; the honey looks and tastes like clover honey, and the bees are found very busy on the red clover. This one feature alone, is worth all the expense of Italianizing. Our plan of making the new colonies, was simply to lift the combs from the upper stories, and put them in the hives in the house apiary; and as they contained no brood, we made a very sure thing of it by giving each colony a small piece of comb containing larvæ from our imported queen, also a cell nearly ready to hatch. In case there was any failure with the cell, they would be pretty sure to raise one from the brood, and we are thus under no necessity of taking a second look at the colony, unless we choose. If we give them a second piece of brood in about 12 days, it will make success more certain, and will keep the bees at home while the queen is out. This method is of course only for building up stocks, and where you have very little time to look them over and look for queens. In fact we many times never see the queen at all, feeling satisfied as soon as we find sealed brood in abundance.

### SECTION BOXES WITHOUT THE TIN SEPARATORS.

Just after the Aug. No. had gone to press, we were much delighted to find that the sections that were filled without the tin separators were just as much handsomer to look at, and contained from 1/4 to 1/2 more honey. And really, after taking a look at the plump rounded cakes, those made in the tin cases look thin and lean. If 1/4 inch sticks are laid on the frames—only two are needed—the sections can be placed right over the frames without trouble, and we are happy to add that we found they could be all removed from the hive in a body, if unfilled, by moving the whole to and fro until the propolis was loosened, and then lifting them up. It is true we do not keep the bottom sticks as clean, as by the other way, but it is so much less machinery that we are inclined to think we can take the trouble to scrape them off with a knife. Some kind of a honey board with slots *may* be advisable, but we would be pretty sure to get the sections farther from the brood, which we hardly think advisable.

*14th*—Honey is coming almost as it did in June, and there is little doubt but that the main part of it is from red clover. The Italians are seen on it every where, and they are just about as busy as they are on the white clover in June. It were no more than fair, to state that the hybrids are at work on it also, and some strong stocks of very cross hybrids are actually filling section boxes faster than any we have, but it may be because they have such a heavy force of workers. The imported queen, although we have sold larvæ from the stock almost as fast as she could lay the eggs, for the past 3 months, sends out workers enough to bring the hive down at the rate of from 1 to 1½ lbs. per day. We put them on the spring scales, because they are almost the only stock that is not too heavy for the capacity of the scales. They were divided in July, and the new colony is now a strong stock. The plan of dividing was simply to carry the brood combs, bees and queen, to a new hive, brood being left in the old hive from which to raise a queen.

### OUR EXPERIENCE WITH SMOKERS.

When moving the combs from the upper stories into the house apiary, we got along very peaceably with several colonies, scacely needing any smoke at all; but when we came to the 4 story hives of dark hybrids, it was not so pleasant. Had our hives been made so that only 3/8 space was left between the frames above and those below, perhaps we should have got along very well, but unfortunately they were our old Simplicity hives and the space was in some cases 1½ inches and heavy combs were bridged across this to save room. The hoop hives, and the hives we make now, work excellently in this respect. We would earnestly advise, that no one ever, no matter how much hurried, put on upper stories that allow the frames to come more than ½ inch from the lower ones. Well, the upper stories had to come off, and there was no other way, but to tear these combs apart, and then with the honey knife trim both top and bottom. Of course we very soon had robbers at work, and had to desist. At the next attempt, the hybrids were just in the mood to sting, in that cool decided way, that perhaps you have all experienced. Circumstances were such that we felt the upper stories must come off. Our smoker was put in its best trim and they were driven back, but only to come to the battle with renewed fury, just as soon as we stopped an instant, or allowed them to boil up at any corner of the hive. With fingers daubed with honey, tears running down our cheeks from the combined effects of stings and smoke, and with a humilated if not conquered spirit, we went round on the other side of the bee house to meditate and——pull out the stings. Even after we had desisted and retreated, two or three little "heathen" that did not feel "satisfied" came and inflicted a couple more wicked stings and then seemingly regretted that they had no more stings to inflict judging from the way in which they buzzed up ones sleeves and seemed generally bent on mischief. Veils and gloves say you? We have a feeling that when our bees get so furious that it is neccessary to barricade against them in that way, it is a fair indication that something is wrong—against nature, as perhaps friend Heddon would have it. We do not believe in fighting with anybody, and if we cannot get along without fighting with our bees we should feel very much like giving them up. To get a veil and gloves and push ahead at such a time, would soon demoralize a whole apiary, to say nothing of the stings that might afflict the whole neighborhood. We did try a veil but feel as we have said before, that when one who has had experience enough to feel at home among the bees, finds a veil needed, he had better stop. If we are careful, and see that no robbing be allowed for an instant, 100 colonies can be kept in quiet and tranquility the year round, but do not let the bees ever find out that honey is to be had about on the ground, or in the houses.

We wiped our eyes, pulled out the stings and took our old sauce pan down from its nail; put in a coal, and then a heap of sticks, and very soon a cloud of smoke arose that seemed fit for our purpose. This was taken to the hive, and very soon every bee in the air, and around the hive, retreated with an air, that to say the least, was quite consoling. With a very few puffs of the breath, every bee could be driven entirely from the combs, and by placing the pan so the smoke curled above our head, those in the air, very soon flew away in disgust. We finished our work in peace and quietness, and felt very much like tumbling the Quinby smoker, with which we had fussed and tinkered so much, on top of the very summit of our monument of discarded implements. Before doing this however, we decided to give a new one a fair trial, as our own has been used over 2 years. This new one works much better than the old one ever did; when first lighted, we could throw a stream of smoke nearly 10 feet, and we were rejoiced to find that it would not go out as long as it was kept supplied with fuel. It has now been used over a week, and every day we are sorry to find it getting more like the old one; caus- we suppose by the soot that accumulates in the tubes, which requires to much time and trouble to clean out constantly. Always going out at the wrong time, is the trouble with the Quinby smoker; the trouble with the sauce pan is, the smoke gets into one's eyes, and the sparks get into the sawdust. The former is the neater, more compact, and easier put away, for if laid on its side, it always goes out at once; if it would not go out at any other time, it would be a "jewel." We have studied in vain to improve it in that respect, and failing, have decided to accept it as it is. As we have sold a great number of them this summer, we shall hereafter keep them in stock, which will enable us to furnish them on shorter notice than heretofore.

17*th*—Did you ever! We have actually taken over 100 lbs. of the most beautiful comb honey in section frames, from one colony, and they are now at work on their fourth set of 30 sections. This colony is out doors, and the honey has bees all stored in the sections with nothing but the hoops around them. To keep the bees from hanging out we gave them three tiers, or 90 sections at once,and have been very agreeably surprised to find that when all were taken off, those in the lower tier were just as white and nice, as those in the topmost. This may not prove the case invariably, yet these had been sealed and ready to take off for over a month. At present our experience is in favor of the sections without the tin separators, if not to be glassed. They are not only much easier to handle in lifting out those that are sealed ready to come off, but they contain considerable more honey. We would prefer to have the sections set directly on the frames, were it not that the brood combs need to be about 1½ inches from centre to centre, and the sections about 1⅞. Unless the bottom of the section sets squarely on top of the top bar to the frame, the bees fasten them down too tight to be convenient in handling; if we turn the section across the other way, they fasten them if possible, still tighter. We really believe we never spent a happier hour in the apiary, than did we to-day in taking off honey in section boxes. Where they are set directly on the top of each other with no tin separators at all, they can be lifted up as easily as one could wish, and if the sections have been filled, or nearly so, with foundation, each one will come out clean, and entirely free from the stickiness that makes so many operations about the apiary disagreeable. Just think of it! Honey put up in clean white packages, not a particle to drip, and the bees do every bit of it themselves. While taking them off, we were tempted to stop and exclaim "Did you *ever* see anything so handsome?" at almost every one removed.

19*th*— Our honey house had become awfully "cluttered up" in fact it showed strong symptoms of getting as bad or even worse, than was "Novice's barn." Puddles of thick honey were to be found in divers places on the floor, and hives, hoops, covers quilts, section boxes etc., were mixed up in a fearful way with plates, and pans, containing bits of comb honey that had been hastily put out of the way of the bees that all hives might be as speedily accommodated with boxes to receive the new and unexpected yield of honey in Aug. Well when the matter got so bad we could stand it no longer, we made every thing clean and nice except the dishes of bits of comb honey. How we did wish we had directed the bees to put it in those clean sections, instead of between the frames and in out of the way crannies that had to be cut out with so much labor. Well we thought of the letters of friend Crane, and Smith, and finally took our dishes just about sunset, and emptied them all in front of the hives among the bees that were clustered out. Instead of any robbing next morning, we found the honey all taken up clean, and still further, we found them very busy taking all the new white comb, and before night the most of that was carried into the hives. Further, a plate of extracted honey was placed in front of one hive, and that too was all taken up clean before morning, and we rejoiced to see that colonies so fed, were as soon at work in the morning as any. To be sure this honey went into the section boxes, for their hives are so full below that they have no other place to put it. Now who will help tell how many lbs of extd. it takes to get one lb. of comb honey? If fed at the entrakce in the night, we think it will in no way interfere with their labors during the day.

* * *

[For Gleanings.]

## THE SALE OF HONEY.

EDITOR GLEANINGS:—Perhaps of the least interest to beginners, and of the most importance to the older apiarists, is "THE SALE OF HONEY." In another envelope, I send you samples, in the way of advertising, of a *few* of my past efforts to dispose of my productions. I am well aware that some of the statements are as much as the truth will bear, but something must be done to offset the "popular" prejudice against extracted honey, if we expect to sell at all. I have spent money enough to establish a fair sized apiary, in putting up honey in an attractive shape. I have always advocated building up a HOME DEMAND, and at the same time have built up my own ten fold. I made but little progress, until I quit extracting *uncapped* comb. I claim that all uncapped, extracted honey is more or less sour, or *rank* (as many of our friends seem to think "sour honey," means vinegar) and I am *now* afraid that my statement, on my price list of "choice machine extracted honey," is not *quite* up to the whole truth. Too many honey producers are so "slack" as to let dealers buy their honey at low figures, and after putting in proper shape, return it to their own town to be sold out at fancy prices. I consider a sale of *choice* extracted honey at 12½ cts. per lb. of *more* value if to my *nearest* neighbor. This is my centennial price at home, at retail. And less than I will *wholesale* at *abroad*, unless to jobbers. That price gives my neighbors no occasion to "keep a few bees *just* for their own use," and insures to me a *growing* home trade which is already worth more than any other. "I am free to confess" that I have no desire to see my neighbors keeping bees, for I find it *hard enough* to "get up the hill," as it is. If I don't keep my own market supplied (and few beekeepers do) but go to shipping away at 7 and 8c per lb., some one OUGHT to keep bees, who would let the people here enjoy honey at 20 per cent advance. We must not wait for people to "come after honey," but must introduce it at their doors, and charge them for our trouble. How much honey could C. O. Perrine dispose of, if he kept still and waited for orders. No sir, he keeps men and horses busy in the city, handing honey to consumers to "taste," and men and circulars going over the road, soliciting orders from dealers.

In GLEANINGS for August, 1876, friend Heddon is charged with—well—*something wrong* probably, that he did in Saranac, Mich. Well, here is a "crawl-out." In the first place I never was nearer Saranac, than Grand Rapids. My books do not contain the word, Saranac. Which either shows I never sold any honey there, or else never charged it up, which would make it somewhat less than 30c per lb. either way. My agent says he never sold any honey there, and never used the words "unripe" or "sour." Finally, I wonder if there *really* is any such place as "Saranac" at all; undoubtedly, there are lots of K.'s who don't like the looks of their full name, on paper.

If I really *am*, one of ane Colvin's box hive converts, as Mr. Hill KNOWS is the case, just take me back into the arms of "flumididles" and new fangles, and "rock me to sleep." Colvin is undoubtedly in dead earnest, and probably thinks I am, from a reply I wrote to him. I wouldn't fear to challenge his hive, with a candle box. Bro. Hill can't you find any thing I may have dropped, to pick at, without feeding on the tricks I am *going* to play? My time has not come yet, to describe this "boss" of boxes, but just for your sake brother Hill, I will say *now* that it *won't* beat a nail keg, for sucessful wintering, but won't you be so kind as to tell me what frame hive will, and *why!* Don't forget the "why." "*Not* his" eh? Well of course you know all about it, and I will give you plenty of time to describe it, before I do.

JAMES HEDDON, Dowagiac, Mich., Aug. 1st, '76.

The printed circulars that our friend enclosed, were truly—well, astonishing, and we fear he acted on the principle that our "Young America's" seem to think "business," namely; spending one half your capital in advertising the other half. Perhaps as many fail in business, from to much advertising, as from almost any one thing, and we believe the real substantial men of our day, depend mostly upon the goods they send out to bring customers for more of the same kind; or at least, that their advertisements are of a very modest character. "Spread Eagle" circulars, are *not* an indication of a large and healthy busines. We fear our friend is swinging to the opposite extreme, when he offers honey at *retail* at 12½ cents, but his remarks in regard to bringing our honey right before the people, are certainly sound. We are told that even now, our hotels in the cities, although their tables are supplied with almost almost all the rarities in the way of fruits and vegetables, seldom have a bit of honey of any kind, and we have heard the excuse given that they cannot afford it, because there are always those who will eat so much. "Poor fellows" did they never in their lives have honey enough? who will take some decisive steps to have honey on the tables of our hotels the year round?

We supposed of course "K." *knew* that the honey was offered for sale in jars with your label on them. Will he please rise and explain? We will take good care that you are not *unjustly* blamed, friend H.

## HOW DOOLITTLE WORKS WITH THE SECTION BOXES.

NOVICE asks the question, page 187, how to avoid having so many partly filled boxes, and so few full ones. Perhaps we can answer in no better way than by giving our plan of operation with them. On page 135, Vol. II, we told you when, in our opinion, boxes should be put on. When putting on boxes, (if we have them) we put in the centre case, two or three boxes (according as the case holds, we use some two and some three box cases), which are nearly full of comb, such as Novice will have next year. As the bees commence work first in these boxes nearly filled with comb, they are ready to come off first. They will generally be well sealed by the time those on each side of them are two-thirds full. As soon as sealed, take out, and put empty boxes (with starters in always) in their places. Now by doing this, it will be seen that there never comes a time when the whole set is all sealed at once, as we used to get with the large boxes when we had such hard work to get them into a second set of boxes to work once more. In a few days more there will be from 6 to 10 of those that were near the centre ones which you took out, ready to take out also; and now is the time if you have side boxes, to raise them to the top and put the empty ones in their places; and so on, having them build comb at the sides and store the honey at the top. Every apiarian knows, or should know, what his resources for honey are, and how long, as a rule, they last. Now, about a week before your harvest of white honey will come to a close, when you take out full sections at the top and raise those from the sides up, instead of putting in boxes at the sides, have your board that keys the side boxes, tight up to the brood chamber, thereby throwing all your force of bees into the top boxes; or if only top boxes are being used shove all your partly filled boxes into the centre, putting the empty ones on the outside. Thus you will see that at the fore part of the honey harvest we get them at work in as many boxes as we can, and at the latter part we strive to make them finish all they have commenced work in. In this way, we have but few boxes that are part white and part dark honey or but partly filled, at the end of the season. It is not very comforting to an apiarian's feelings to have the harvest of white honey come to a close with from 20 to 40 sections to each hive, nearly full but none full enough to come off, and to be obliged to have them finished off with buckwheat, which decreases the price by one-half. Also, in this way we get the larger part of our dark or second quality of honey stored in the brood chamber for the bees to winter on; for as the nights grow cool the queen ceases to keep up her brood and so the combs are filled with the dark honey which in our experience proves just as good.

John F. Lafferty asks on page 154, "Why do bees in good solid box hives winter better than in frame hives?" We deny that such is the case. When we first commenced to keep bees we could count within a radius of two miles, 150 or more stocks of bees in such hives. All went well till the winter of '71 and '72, when they commenced dying off. They have decreased till at the present time scarcely one remains. And this is a general rule all over the country, here in York State, while there are plenty of frame hives with bees in. As long ago as we can remember, father had a box hive that lived through the winter when all the rest would die, and the reason was soon ascertained. It had a 1½ inch hole near the top for an entrance, that being the only entrance they had. In other words they had upward ventilation. Other hives were fixed the same way, and the mortality decreased by one-half.

We would like to know of Mr. Porter, page 183, if he is sure the swarm he took the 112 lbs. of honey from, had no queen? Did he examine the combs after he put the boxes on, to see? Queens get into stocks in mysterious ways sometimes. For instance: we found a stock that had a good laying queen a day or two previous, queenless; and upon opening a queenless stock some 40 feet distant, we found the identical queen filling the combs with eggs. We can give no satisfactory reason, for she had to pass three or four other stocks to get to this hive. With us, bees will not build comb in boxes while queenless; and to tell when a stock has a laying queen, all that is necessary during the honey harvest, is to look in the boxes.

If our friends Savage and Kellogg will notice, they will see it is impossible for the bees to get honey out of the pumpkin or squash without getting liberally covered with the yellow dust from them. We always regret when we see them commence to work on these plants, for they soil the nice white comb so soon. It is only when honey is scarce that they work on them of any account with us. If any one has seen bees pack the dust from these flowers in their pollen baskets, they have seen more than we have, and pollen must be thus packed to be used by the bees.

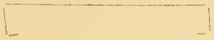
G. M. Doolittle, Borodino, N. Y.

There is something strange about queen's getting into colonies unexpectedly. Several years ago we had a queen that was nearly black, and entirely wingless. She suddenly disappeared, and was found some time afterward in an adjoining colony. The curious part of this was that this dark queen produced very finely marked Italians and had changed the colony in which she was found. We supposed then, it was done while extracting. In handling combs, the queen sometimes drops off, or they may swarm at times unnoticed, and if the queen is unable to fly, she would be very likely to get into another colony. We presume queen rearers have many times been unjustly blamed in consequence of such mishaps.

Some of our friends, we fear are a little thoughtless in their requests. We have been asked to label pieces of old silver, "seeds", that the P. M. might send them at a low rate of postage; cases of section boxes, "glass", that the express men might handle them more carefully, and goods going to Canada, "samples", that they might pass the custom house at a less duty, etc.; of late, we have several times been desired to ship goods to certain parties without attaching any card or label that might indicate where they came from, that the person who made the sale, might obtain a higher price for the goods than was given on our price lists. Now we are willing and anxious to accommodate, but should be very sorry if friendship, money, or anything else, would be a sufficient argument to induce us to deceive even the express or mail department, or to keep a fellow being in ignorance of the real value given on printed price lists, of goods he may want. Every one interested in bee-culture is entitled to all the information that we can give him, and we should be far from doing as we would be done by, did we by omission, or commission deprive him of this. Dear friends it is much the better way to have every thing plain and open in business matters, even at the expense of having to work for nothing occasionally; if you can feel you have helped somebody else, it will all come right some time. We endeavor, as far as we can to allow a small commission, to those who take orders for us, and we will try to pay you for your time and postage, if nothing more. We prefer to pay for all work that is done for us, or for Gleanings.

## HOW I FASTEN COMBS IN TRANSFERRING.

TAKE No. 16 wire and cut (diagonally across so as to make a sharp point) into suitable lengths so that when bent into this form



it will catch under the bottom bar and hook over the top bar. If some are made longer and marked and kept in a bundle by themselves, their usefulness will suggest itself without further explanation. To use; prepare your frame by hooking on as many as yon wish on one side; lay in your comb, hook on the upper side, and it is done in a twinkling. and they can be taken off as quickly without disturbing the bees. The idea is original with me. I have used them three years and am satisfied that they are better even than Novice's transferring clasp. Try them and be convinced. J. M. HILL.

## SPORTS OF NATURE.

PROF. A. J. COOK:—Yesterday in answering questions for the *Bee-Keepers' Magazine*, I had occasion to comment upon a curious specimen of bee, viz., a worker bee to all appearance, with perfect *drone eyes and wings.* Last evening while handling bees, I found a specimen of worker, with the wings and abdomen of a drone. What shall we call these specimens? Freaks of nature, or a new developement? Please make some comments in one of the Bee Journals. I send you the specimen which I found, by this mail.

J. H. NELLIS, Canajoharie, N. Y., July 25th, '76.

DEAR MR. EDITOR:—Our friend J. H. Nellis, of Canajoharie, N. Y., sends me a curious bee. The general appearance is that of a worker, and such it is called by Mr. Nellis, but the thorax including wings and abdomen are those of a drone. He speaks of another *worker* with drone eyes and wings. The insect sent to me was possessed of regular drone organs, and thus was a drone, with some worker characteristics.

These curious insects, which are not infrequently noticed by good observers, not only among bees but other insects, are called *Hermaphrodites;* but incorrectly so, as a true *hermaphrodite* possesses both male and female organs, perfectly developed in the same individual, as illustrated in our common snails, and many other of the lower animals. Among insects there are no true hermaphrodites, as only one set of organs are fully developed. The sex can usually be told by noting the peculiarity of that part of the body to which are attached the genital organs. Thus the insect in question had a drone shaped abdomen, and proved to be a male.

Such cases are by no means confined to animals low in the scale of animal life, but are rarely met with in the very highest.

Such cases of false hermaphroditism are not to be regarded as normal, but as malformations, or if we believe in evolution, we may regard them as explained by the law of atavism, in which case peculiarities occur, not after some generations, but after some millions of generations. Such cases are of exceeding interest to science, and should be brought to notice by all who are close enough observers to detect them. A. J. COOK.

# Honey Column.

### CAN WE SELL HONEY FOR 10 CTS. PER LB.?

IN your June number, H. E. Curry, of Cincinnati, O., states that he sold 2000 lbs. of extracted white clover honey at from 25 to 30c per lb. Will Mr. Curry be good enough to explain, through GLEANINGS or otherwise, how bee-keepers in general, can secure even one-half as much, for a like quality of honey?

Last year I sold a very white and choice article of honey, (mostly white clover, but containing, I suppose, a sprinkling of linden) in Cincinnati, at 10 cts. What I retailed at home, of course, paid me much better. I now have a barrel of white clover honey, all put up just prior to the advent of linden blossoms, which I should be glad to sell at 15c. I can afford it at that, and I can not afford it at 10 cents.

My experience in this matter is parallel with that of nearly all bee-keepers in Michigan. Can you, Mr. Editor, can you Mr. Curry; can any one; *will* any person suggest any honorable course by which we can secure a fair equivalent for our choice machine extracted honey?

G. E. CORBIN, M. D.

St. Johns, Mich., July 24th, 1876.

We presume friend Curry put his honey in very neat attractive jars, with a very neat and tasty label, and retailed it himself, in the city of Cincinnati; which is probably one of the best markets for *choice* goods, that we have. At first glance, it looks entirely unneccessary that honey that is retailed for 25c., must be purchased in bulk from the producer, for 10 or 12 cents; yet we believe such is found to be the case by almost every one who undertakes to handle it in large quantities. The same thing is transpiring in regard to other articles all about us, and perhaps it will contribute to our cheerfulness, to accept it pleasantly, and not feel unkindly toward our neighbors, even if they do charge 50 per cent for handling some of the staple articles of food. We can all retail our honey, or at least a large part of it, if we wish; but after selling barrels in that manner, we think you will most of you decide to allow the retailer such a profit as he thinks right, providing you have *plenty of other business to occupy* your time. If one has things conveniently arranged for it, we think it a very pretty business to sell honey at retail. And even if we sometimes have to weigh out a half or even a quarter of a pound at a time, if it is all done good naturedly and pleasantly, it is not so very much of a bother after all. After the honey season is over, your extractor will do very well to retail honey from. Place it on a convenient table elevated just enough to have the honey gate come over the mouth of a quart jar, while the jar stands on a pair of scales. Adjust the scales for the amount of honey wanted, and with a little practice you can give the exact amount of honey wanted without wasting a single drop. Our neighbor Rice, of Seville, sells at 16c., as that is just one cent per oz., and is very easy to "reckon." Well now, cannot we sell honey in this way at 15c. and make a very comfortable living at it? If we can sell it by the barrel at 10c. and do nearly as well; and cannot bee-keepers as well afford honey at 10c. by the barrel, as farmers can wheat at $1.00 or less per bushel, and as well as they can sell many other products at the price they do? May I venture to suggest that we are ofteutimes less happy when we get great prices for our work than when we are obliged to honestly earn every dollar we get, and work hard for moderate pay. The question asked as to how we are to sell our honey, might with equal propriety be asked in regard to corn, wheat and potatoes; the latter were recently offered in our town at 10c. per bushel, and wanted a buyer. How many readers have we that could raise a bushel of potatoes as easy as a lb of honey?

Go to work pleasantly, and raise as large and nice a crop of honey as you can; in the same manner, sell it to your friends and neighbors as well as you can. If you cannot get as much as you think you would be willing to pay in like circumstances, take less; but make up your mind you are going to be contented and cheerful, no matter what the price is. Very likely there are those who will not care to fuss with bees if honey comes down to 10c.; but we shall if they do not, and it will probably make us all the more earnest in our efforts to simplify the work in the apiary. Is it not possible that it would do us all good?

If you open a honey column put me down for 3000 lbs. extracted honey, at 15 cts. per lb., barrels thrown in; and 2000 lbs. box honey in light section frames, at 25c per lb.

J. H. MARTIN, Hartford, N. Y., July 24th, '76.

## SECOND SWARMING, FDN., FEEDING EXTRACTED HONEY, CHAFF, ETC.

FRIEND NOVICE:—We have had a fearful run of honey here ever since white clover commenced, about the 10th of June. Basswood gave out on the 20th of July, the bottom dropped out of it all on a sudden. During a little over a month we have obtained 3000 lbs. of extracted honey and have boxes enough nearly filled to give 2000 lbs. box honey, and perhaps more, if the fall yield is good.

I think my yield of box honey would have been greater could I have prevented the swarming fever among my extra swarms. I have no objections to first swarms, but when second swarms persist in coming off, it is more than I can endure. All remedies, even giving a generous supply of unsealed larvæ would not prevent some of them leaving with the young queen in her first flight.

We have not used the foundations this summer but have a problem in our mind which probably you have been thinking of, *i. e.*, will it pay to feed our extracted honey to swarms supplied with comb foundations? If I feed the 3000 lbs. of extracted honey, how many lbs. will I have of comb honey therefrom? That is the next problem we want solved.

In relation to the chaff theory, I am free to confess that I didn't do it exactly right. The swarm was in a glass hive, capacity, 8 frames; as far as chaff was concerned it was genuine oat chaff, but I think the quilt was too close, as the combs moulded a little. We will try another swarm during the coming winter and will follow directions implicitly. The only objection to such a plan is the extra boxes and muss of chaff. Just think of it for a hundred swarms! If you are equal to the task of inventing a cheap and temporary chaff quilt you will confer a blessing. If it will aid you I will mention that Asbestos roofing felt would make a good outside to the quilt, as it can be made to shed rain and would obviate all necessity of boxes, etc.

J. H. MARTIN, Hartford, N. Y., July 24th, '76.

Our neighbor Blakeslee is at present trying the plan of feeding extracted honey to get section boxes filled. "They take the honey greedily," is about as far as he is at present able to report. We confess to having very little faith in the idea; it seems too much like going a great way around, and if any body needs to take short cuts, it is the bee-keeper. It may be that enough more honey can be obtained with the extractor to pay to feed it back when the yield has ceased, but we doubt it. There would be one fine thing about it; it would keep up breeding, and the stocks would be pretty sure to have plenty for winter. Give us anything but starvation.

We have this minute ordered samples of the Asbestos felting.

## GIVING BEES A "FLY."

IN the fall of 1875 I put 48 swarms in my dwelling house cellar, and after leaving them five, and a part of them 5½ months without having a chance to fly, took out 46 in fine order, well filled with bees, hives clean and in good condition in every way, without the loss of a single queen (two swarms died of starvation). Then why give bees a fly in winter? I have wintered four years in the same place, in the same manner, and with the same uniform success. The hives are placed on shelves in one corner of the cellar, with the entrance at the bottom of the hive, open enough for the bees to know they are not confined, and each hive ventilated at the top. Strong swarms with much ventilation, weak ones with but little, and all kept dark and quiet. The thermometer ranging from 32° to 40°, usually from 34° to 36°.

This has been the poorest season for bees, in this section, that I ever knew; the caterpillars scourged us till first of June, taking nearly every honey flower, and the clover seems to furnish but enough for them to make a living. Those who take the bee journals and have learned to know what the matter is when bees are starving in May, or June, and have fed a little in just the right time, have saved their bees, while others have lost and don't know why. We still hope to have honey enough from the golden rod, which is now just coming into bloom, for bees to stock their hives for winter use.

J. LAKE, North Jay, Maine, Aug. 5th, '76.

If your bees were so strong that they entirely escaped the spring dwindling, perhaps nothing more could be desired, if they would continue to winter as well; but many who have heretofore wintered in cellars just as you do, have of late years, found things going entirely different, and without any apparent reason either, so far as they could see.

# DEPARTMENT FOR BOX HIVE BEE-KEEPERS.

MR. A. I. ROOT:—I received your GLEANINGS for July. I desire a continuation for one year, for the enclosed money. I was much interested in the reading matter of that number, as many things were discussed which have been subjects of observation with me for 40 years. You will no doubt call me an old fogy when I tell you I entirely agree with your correspondent, James Heddon, in the matter of simplicity in structure of hives, and bee management, under a thorough knowledge of the economy of the insect, directed by a plain common sense view of all the surroundings. For 30 years I have used an equilateral triangle hive, losing but little time as compared with the incessant attendance and toil of the bee-keeper who adopts all the contrivances which a new fledged business generally requires from its novelty and the exaggerations of zealous devotees. Many articles now used are to see what bees can be made to do and are not what experience teaches us is useful and profitable. In like manner, the circus rider teaches his horse a great many curious antics, which the matter of fact man would have no use for in the solid service of the roadster or the cart horse. The labor necessary to keep up an apiary of 200 colonies, and make and prepare all the paraphernalia of a modern establishment, requires all the time of a bee-keeper. I keep, on my own place, 200 colonies, with a little attention from the gardener to hive one swarm from each parent stock, and the time I take in putting on honey boxes and removing when filled—more an amusement than labor. I say one swarm only from a hive, which you can tell your correspondent C. B. Friend, is effected by hiving a natural swarm, and as soon as they are quiet in the new house, placing the hive on the stand of the parent stock and removing the latter 10 or 15 yards. The new, acquires new strength by the bees from the old stock returning to that locality. The old hive will send out no other swarm that season, but gather stores rapidly if the pasturage is good.

The work to make one frame hive will make a dozen triangular hives such as I use, twenty-two inches equilateral, and the glass or tin boxes containing 10 lbs. honey will cost 13 cents, and with these simple means I will compare results with any apiculturist in the country provided all things are equal.

The common farmer wants 15 or 20 colonies for home use, has no time to nurse bees the live long day, he wants a simple cheap hive and plain honey boxes all of same pattern, so that any one will fit on the hive. He wants one swarm each from his old colonies. Then if the pasturage is good, and he has common sense, he is sure of a bountiful harvest of honey, and colonies enough to sell half his stock with the least trouble imaginable, free of the ten thousand annoyances which the regular apiculturist imagines are actually necessary.

It seems that everybody nowadays who hives a swarm of bees thinks he knows all about it; hence the superfluous suggestions. Just think of *ventilation.* Is that following nature? Do the bees not close up all apertures, even the entrance, when too large? Another absurd operation is the boring a one inch hole entirely through the center of the comb to give passage to the bees, when they have already left enough gate-ways for all purposes.

My apiary is located among plum trees. I prefer natural swarming to artificial. I permit one swarm only to issue from same stock. Keep the stock strong and dispense with most of the humbugs on the subject.

GEO. B. PETERS, M. D.

P. S.—I don't suppose you will publish my views as it is not strengthening the position of all you zealots, but *truth* is what we are all striving at, and I am reminded here of Campbell,

"When science from Creation's face
Enchantment's veil withdraws,
What fairy visions yield their place
To cold material laws."

G. B. P., Council Bend, Ark., Aug. 5th, '76.

We should be very sorry indeed, to seem unwilling to give a fair hearing to any side of bee-culture, even though it might be something that would result in pecuniary loss to ourselves, as manufacturers of implements for the apiary. The above letter seemed so candid and straight forward, we sent the writer $5.00 at once for the articles mentioned, and asked him to send us one of his hives. His reply is below.

The five dollar bill enclosed, I return to you. The triangular hives I have prepared for my own use, are rather rude and my time is now so engaged in preparing to sell the crop cotton from four large plantations that I can not immediately send you one, but will do so (gratis) some time this winter. The fact of your sending me that bill, proves that you are endeavoring to render the bee business a certain and profitable vocation, and your Bee journal a medium of truth, of facts observed, and a scientific collection of all the most useful inventions connected with apiculture. I have hitherto looked upon all Bee journals as I do upon all other journalism, that is, as a business for a livelihood; rather "catch penny traps" but this remittance of yours has done more to convince me, that your object is *usefulness* as well as thriftiness, than all the articles you could write in twelve months. With the kindest reciprocal sentiments I will write some articles in an old-fashioned way which may not suit the fashions of apiculturists nowadays, but our Mr. Heddon, no doubt will read them. I will soon write an article "Why do Bees settle on any object when they swarm naturally, and not go directly to the woods?"

2d. My simple method of hiving a natural swarm.

3d. Bee pasturage in the alluvium of the Mississippi river bottom.

4th. Wintering bees in this latitude.

But as I am more of an observer than teacher, I would rather read the suggestions of others who are more competent than myself. I am a free thinker upon every subject and believe nothing without a reason to sustain it, and in all the economy of bees, upon close inspection, there is a cause which impels the instinct of this wonderful insect.

GEO. B. PETERS.

Council Bend, Arkansas, Aug. 17th, '76.

## Humbugs and Swindles

### Pertaining to Bee Culture.

[We respectfully solicit the aid of our friends in conducting this department, and would consider it a favor to have them send us all circulars that have a deceptive appearance. The greatest care will be at all times maintained to prevent injustice being done any one.]

FRIEND ROOT:—Enclosed I send you an order which I received of the name signed. The 9th, of Dec. I shipped the 8 boxes as a sample, which he received, as I have his receipt. But the pay for it has not yet come. I have written to him several times, but get no answer. Had he paid for the sample, he would have got 200 lbs. more. As it is, the $7.60, price of sample, I have not received. Can you tell where this Charles Freed can be found? dealer in comb and strained honey, etc. (was some time), No. 218 Arch St. Philadelphia, Pa.

LYMAN LEGG, Rose, N. Y. Aug. 8th, 1876.

The letter referred to is written on a sheet that has a large bee-hive on it, and proclaims in large engraved letters "The American Honey House." Contents:

MR. LYMAN LEGG:—Send about 50 lbs. of small boxes as sample; pack them well, so as not to move about. Go to some store and get an old boot box, this is what is generally used, and cover with strips about one inch apart, so as to show what is in it; also, put one on each end for handles. Prepare as above and mark, "this side up with care."

CHARLES FREED.

No. 218 Arch St. Phildelphia, Pa. Dec. 1st, 1874.

Now friend Legg, you or any other of our readers are very thoughtless indeed, if you send your money to any one you know nothing of, more than that he tells himself. If any one wants your honey, go to your nearest banker or merchant, and have him tell you whether such a man is known. In case no such person is quoted, you can be pretty sure that he is either a humbug, or is doing a very small business indeed. On looking we find no such honey house, nor any one of the name in the honey trade in Philadelphia. We are acquainted with the habits of most of the honey buyers of our cities, and will willingly advise our readers if they wish.

GLEANINGS IN BEE CULTURE.
**Published Monthly,**
A. I. ROOT.
EDITOR AND PROPRIETOR.
MEDINA, OHIO.
**Terms: $1.00 Per Annum.**
*[Including Postage.]*
*For Club Rates see Last Page.*

## MEDINA, SEPT. 1, 1876.

HER ways are ways of pleasantness, and all her paths are peace. Prov., 3 : 17.

WE are glad to note that friend Muth has made honey jars a little lower. See advertisement.

WE have never yet seen a particle of pollen, nor a cell of brood either worker or drone, in the Universal section boxes.

WE always rejoice to see things cheaper, and if it is a loss to us, we feel it is a gain to many. Our friend Albert Potter now comes on the stage, with full colonies of Italians, in hives, for only $5.00. If the price is too low, they will be soon bought up, that is all. Nesbit does still better, but does not say *pure* Italians, nor ready for winter.

THE combs used in the upper stories, for the extractor, must be stored somewhere, for 6 or seven months in the year, and it is quite a little task to care for 1.000 or more, as we know by experience. We have never had ours troubled with the moth, when removed in October, and stored in a tight box in the barn until wanted the following May or June.

WE believe we can guarantee satisfaction on all goods, except the larvæ, by mail; on this we can do no more than give you some brood of the proper size, in a neat wooden box, taken from the hive just before our mail is made up, and our best wishes for a speedy journey. If it is more than 48 hours on the route, you have wasted 25c., that is all.

WE are in receipt of a very pleasant letter from Mr. Langstroth, and rejoice to know that he is once more able to take up bee-culture where he left off about a year ago. He says the long interval seems on looking back, like some troubled dream. Do we who have the full use of our mental powers every day in the year, realize what a blessing it is?

OUR 2½ horse power 17 foot Continental wind-mill, just painted and in good repair, is offered for $200.00. This price includes the tower, balcony and all, and all will be safely boxed and delivered on board the cars. The mill cost us over $500,00 and was only laid aside on account of enlarging our business. If the purchaser will take it down and box it himself, $50,00 will be deducted.

D. P. HARTFORD, Wolfboro Junction, N. H., makes a 6 lb. honey box for 3 cents. (without the glass) that is so much nicer than any we have been able to make for 5c. that we give him this ad. gratis. The wood work is in fact the neatest we ever saw in a honey box; no nails are used, and any glass can be removed at any time. We presume he will mail a sample for 10c.

OUR friend Rufus Morgan, has sent us some of the prettiest stereoscopic views we have ever seen. And the Southern views, such as cotton picking etc. are especially interesting to us here in the north. Now we are quite anxious to get up views of the different bee-ranches, and a good stereoscopic view is almost equal to being right on the spot. We have been taking a deal of pleasure in looking over one of friend Doolittle's apiary, and it *may* happen that we shall be able to give the rest of you a chance to take a look at it over our shoulder.

ON page 171 we carelessly omitted, when replying to friend Elwood, saying that we were well aware that the paraffine fdn. was a——well, humbug, for it humbugged us perhaps worse than any one else. We have tried to replace it all with pure wax, and if any have been missed, we hope they will speak out. We beg pardon friend E., but if you meant to apply your remarks to pure wax, we shall have to say as before, there is certainly now no room for argument. See the reports in this number. In trying to give our friends fdn. at a low price we wasted a good many dollars, all in all.

OUR friend Windhorst says much of the matter in our Journals is not to be depended on. It is very true that the results of new experiments must not be received with the confidence that one would expect to have in the matter of a text book, but what then? Shall we publish nothing that may afterward be controverted? We are inclined to think friend W's. decision that virgin queens cannot be given full colonies at once, not a very safe guide, for we have done it so often with perfect success, that we consider it safer than inserting queen cells. The success of these operations depend very much on the yield of honey.

Two story bee-hives are patented, and our friend Montgomery of Lincoln, Tenn., has been sued by the swindler Gillespie, for $1250.00 damages, just because M. had put a stop to his black mailing in that neighborhood. This chap claims to have patented the whole idea of using hives on top of each other, in 1870, and every body has got to stop or pay up. There is one excellent thing about this, and that is that it shows just what "rights" are coming to. Shall traveling rascals and swindlers have it all their own way, or shall honest men have a word to say?

IF you wish to try feeding extracted honey to get boxes filled, just set one of our 10c quart feeders in the portico, or just before the entrance to the hive, where the bees are clustered out, and see how quickly they will take a quart of thick honey. If you give it them just before dark there will be no danger from robbing, and it will not interfere with their storing during the day at all. As no opening of the hive is required, we do not know but we shall have to call this the easiest way of feeding in *very warm* weather when the bees are clustered out. Every colony should be strong enough to cluster out, during the warm nights of this month.

We fear our friends have some of them, thought us uncourteous in the brevity of our replies to their kind letters. It is not because we do not wish to reply in the same kind spirit, but because it is simply impossible. Should we attempt it, we could make no practical experiments with the bees, could not give this Journal the time it needs, and perhaps should lose the good health we have been lately enjoying. All letters are opened and read, and the answers read and approved by us personally; this is all we can do, and we very often regret the brevity that is made a necessity on account of their number. If any thing is amiss, do not hesitate to make it known, and please do not doubt our willingness to do all that is right and proper.

### THE UNIVERSAL SECTION BOX.

We should be very glad indeed if we were able to decide on the simplest and best form of implements for the apiary at first trial, but those who have followed Gleanings may have observed that things have a kind of fashion of fashioning themselves, as it were, after they are put into practical use in the apiaries of our hundreds of readers. The Universal section box seems to be no exception, and by repeated working with them, we find that we can, not only get along without the tin separators, but of late we have found it an advantage to set the section boxes directly on the frames, dispersing with the cases for holding them, entirely. Not only do the Italians get into them quicker when placed thus, but they can be lifted out as fast as filled, with greater ease than when placed in cases. As we wish to have the bottom bars free from wax and propolis, we will simply lay some slips of pine ⅛x⅞ and as long as the width of the hive, directly on the frames crosswise. With this simple arrangement, the bees find it impossible to fasten the bottom bars so that there is any danger of pulling them off from the section, as sometimes happens when they are placed directly on the frames. Again, we thought it necessary at first, to make a case purposely, instead of using the ordinary upper story, just as made for a set of frames. We now find that an upper story is just what is needed.

In the engravings on our front, Fig. 1 shows the simple piece of wood from which the other 8 figures are made. Fig. 2, is the Universal section box composed of 6 of these pieces. Observe that the four upright pieces gauge the distance of the frames from centre to centre; in the one shown, it is about 1⅞, but by turning one of the side pieces over, we can reduce it to 1¾ exactly. By using 3 pieces for the sides and two each for the tops and bottoms, we can make it 2⅝, this is right for very thick combs. These can all be used on the same hive, where the size happens to be of odd dimensions. Fig's. 3, 4, 5 and 7, are different forms for getting honey in fancy shapes for fairs, weddings, etc. No. 7 is easily made by placing it on the hive in halves, and uniting the two when filled and sealed. With the fdn. it is an easy matter to fill all these different forms. No. 9 is the storing and shipping case for No. 2 when ready to come off the hive. It holds 15 sections, and with glass in the ends, it is almost sure to be handled carefully. The depth is such, that the cover when screwed down, holds each section firmly in its place. It is made entirely of ½ inch pine; top and bottom, 6x28½; sides, 5x28½. The latter are cut in with a saw ¼ inch from the ends to hold the glass. If you will promise to keep it all to yourself, we will tell you confidentially that No. 6 is a hive having all the brood in the hexagon, and all the honey in the squares and triangles.

For wintering, a pillow of chaff is to take the place of the boxes, and as the lower half is bedded in a box of chaff permanently, the bees will be in the best possible shape—a sphere almost—for economy of their animal heat in winter. The hive will be especially suitable for those foolish fellows like Novice, who are always trying to tinker through, a lot of weak colonies. It also accommodates the queens in their disposition to have their brood in the form of a circle, and allows the apiarist to remove all the honey from the hive in a marketable shape without disturbing the brood. These frames are so nearly round, that we can wrap them up in chaff pillows *precisely* as we would a baby, and the supply of stores is contained in the end frames. Frames cost 1 cent each and chaff pillows—you will see them in our price list for next month. We will tell you how it works, next 4th of July.

## BEE BOTANY AND ENTOMOLOGY.

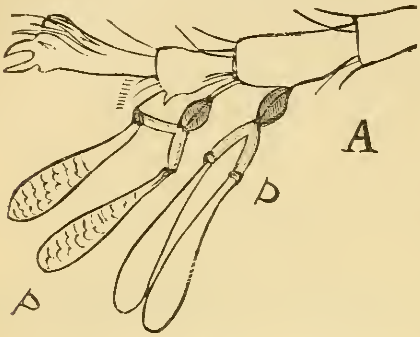
Enclosed I send you a small box in which I put a few dead bees. (I killed them). I wish you to examine the feet and see what there is attached to them. I think it is a parasite of some kind. Don't think they get it from flowers. In magnifying them it has the appearance, partly of a vegetable and partly of an insect. I believe it to be an insect, as you can see some of them in a state of development. They have an appearance something like this, (if they should get dry). The wings or leaves are of a yellowish green, the body black, and the attachment nearly black. They prevent the bee from using his feet. One bee has some of them on his proboscis. Now can you tell me any thing about it? If it is a parasite where did it come from? And what can prevent its spread? If it is vegetable it is of no account.

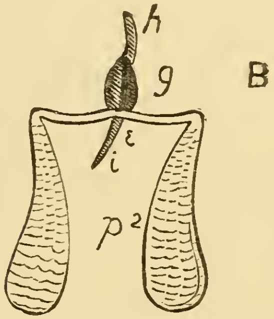
W. Blanchard, Peoria, Ill., July 27th, '76.

Please examine the feet and legs of the enclosed bee through a microscope and tell me what you find.

A. A. Fradenburg, Cleveland, O., July 31st, '76.

We have received an unusual number of letters similar to the above this month and are glad to be able to assure all, that it is no parasite, but only the pollen of the milk weed that the bees accidentally get entangled in when searching for the honey. It is the same that Prof. Riley alluded to when he recommended that the milkweed be planted to kill off the bees when they became troublesome to the fruit grower. The folly of such advice—think of the labor and expense of starting a plantation of useless weeds just to entrap honey bees—becomes more apparent when we learn that it is perhaps only the old or enfeebled bees that are unable to free themselves from these appendages, and that the milkweed can scarcely be called an enemy. On page 52, Vol. I of the *Magazine* we find a very full description of the whole matter, and the Editors have very kindly loaned us the cuts below, which will enable any of our readers to recognize at once the trouble, when it appears in their apiaries. Bound Volumes of all the bee-journals are many times of great value in looking up items like this, that appear only occasionally. The appendage it will be observed, looks like a pair of wings, and they attach themselves to the bee by a kind of glutinous matter which quickly hardens, so that it is quite difficult to remove, if not done when it is first attached. We give the cuts and explanation as we find them in the *Mag.*





EXPLANATION OF THE CUTS.

A. Leg of a Wild Bee—four joints. pp. Polinia of Asclepias (A. cornuti? perhaps)—two pairs, each with its jointed pedicels and black adhesive gland. B. Pollinia of Asclepias from Utah (A speciosa?) *g.* The adhesive gland. *h.* A hair or bristle from the leg of the bee.

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I send a "big spotted queen" in cage. Please classify. I think it is a hornet. Have never seen one like it before. W. J. Andrews.

Columbia, Tenn., July 24th, '76.

DEAR FRIEND ROOT:—Yes, *I will* tell you when you trouble me too much. If we are not to be used, what *are* we for? Send on your specimens. By the way, I presume the bark lice you sent, are the very ones referred to in Manual, as friend Benton tells me that the tulip goes by the name of poplar in the South.

The wasp you sent is the female of the *Stigus Grandis*, Say. This is perhaps our grandest wasp, and so was well named by our great pioneer entomologist. It is found in the middle and Southern states, but not so far North as this. It is one of the digger wasps, whose curious habits have long interested entomologists. These digger wasps, we have many here, but they are smaller and not all so beautiful, catch insects. The one in question having a partiality for the *Cicada* (locust) paralize them with their powerful sting, then bury them, but not until they have placed an egg upon them. As the egg hatches, the infant wasp finds tender steak right at hand. You Mr. Editor would approve the diet. These wasps are of special interest to the apiarist, because of their near relation to bees, and also because of their instincts, which are second only to bees and ants among insects. Some too, like the one sent, are very beautiful.

A. J. Cook, Lansing, Mich., Aug. 3d, '76.

If we mistake not friend C., you or some one else told us that hornets and wasps, by some unknown virtue in the poison of their sting, preserved their victims from the usual decay, or in other words the poison injected into the circulation keeps the meat fresh and sweet until the young insect requires it. Also, that this poison is in no way injurious to the larvæ.

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The "Balm," "Camphor weed" of which I sent you a plant by mail to get the true name, grows in the sand by the river. By some it is called "horsemint" though the description is not exact. It came into bloom about July 20th; July 28th, I put on six 6 lb. boxes. August 8th the stock swarmed out, the six boxes being nearly full, only 10 day's work. At the river, swarming has set in strong. Also at my Monmouth apiary have had four swarms in less than a week. I then cut out queen cells and put swarms back. You are one of those who claim that bees should not be allowed to hang idly on the outside of the hive. Now I wish you were at the river awhile to try your hand. It is *not* for want of room, for I have tried that. I have thought that the odor from the Balm honey was so strong and pungent in the hive they could not stand it. In the *A. B. J.*, May No., 1876, when the plan of introducing queens by scenting hive and queen was *first* made known, peppermint was advised as one of the scents. On using a very weak solution of this, I found the bees became excited, or rather could not stand the odor of the mint and would cluster outside the hive for a long time. Another reason may be that the sand gets excessively hot and retains the heat during the night.

If our friend Jasper Hazen was a young man I would say to him settle on "Benton's Bay" above Oquawka, Henderson Co., Ills., with 10,000 colonies in his patent hive, and he could almost stock the market with honey, and not be in the least danger of overstocking the locality. One year with another, five stocks from one can easily be made. Make a cave in the sand and put the bees in and I will insure them to winter, for 50 cents per colony.

T. G. McGaw, Monmouth, Ills., Aug. 17, '76.

DEAR FRIEND:—The plant sent by T. G. McGaw, is the wild Bergamot (*Monarda Fistulosa*). It is common here, and even more so South. Belongs to the mints, or to the mint family.

I planted honey plants extensively this year, and up to date am specially pleased with Mignonette, Borage, and Black mustard. Chinese mustard poor.

A. J. Cook, August 4th, 1876.

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DEAR EDITOR:—The tall plant with small blue flower is the *Verbena Hastata*, or Blue Vervain. It is common in Michigan as well as Illinois, never fails of bloom, and often yields considerable honey.

The short plant with yellow bloom is a leguminous plant, belonging to same natural order as bean, clover, etc. It is the Partridge Pea (*Cassia Chamorcrista*), I have not seen it here.

We are getting beautiful honey. Golden rod, milk weed, etc. A. J. Cook, August 15th, 1876.

# Heads of Grain,

## From Different Fields.

CAN queens be introduced successfully into colonies that have been queenless four or five weeks? I have two of that kind. One of them swarmed the latter part of June and gave me fifty pounds surplus in section boxes. the other gave nearly one hundred pounds and never swarmed at all. To-day neither of them has a particle of brood. ABEL HIVELY.

Marlboro, Stark Co., O., Aug. 7th, '76.

We can hardly think the bees mentioned *are* queenless, for there would likely be fertile workers by this time. When bees are deprived of a queen, and all means of rearing one, we very soon find eggs scattered about irregularly, and a listless air pervading the whole hive, quite unlike the prosperity and activity that is seen when a young queen first commences to lay. If the honey season is over, with you, it may be that brood-rearing has only stopped temporarily, and will soon resume. Give them a good feed for several days, and if no eggs are then to be seen, you may consider them queenless, and proceed to introduce almost any queen with safety; in fact after a queen is lost, where there is no brood in the hive, they will almost invariably receive a queen without any introduction at all. You can try them by presenting them the cover of the queen cage to "smell" of; if they gather about it with fanning wings, betokening joy, she may be let loose with safety. If you find they have fertile workers, give them two or three frames from other colonies, containing abundance of brood and bees. Find the queens of these colonies first, and put the frame containing them on one side, that they may not by mistake be taken with the other bees.

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Would it be practicable to remove bees from a box hive to a frame hive filled with fdn., and then feed for winter on sugar syrup? C. S. MILLER.

It would be practicable, but not advisable at this time of the year; principally because new combs are not as safe for wintering as old thick ones. The new combs built from the fdn. are scarcely any protection at all, before they have had one or more sets of brood hatched in them. We would advise transferring and using the old combs for wintering. If a new swarm is furnished with a full hive of fdn., they will have the brood combs thick and strong before winter. The silky material of which the cocoons are woven, seems quite necessary for the protection required in winter, and we should be very careful in extracting, making artificial colonies etc., that we do not drive them away, or divide this brood nest late in the season.

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The extractor came all right. When I went after it the express agent said the wisest heads had been puzzled to know what it was. "Every body and his wife" came to see it work. I am a beginner; commenced one year ago last spring with one box hive. It swarmed four times and I caught one swarm the 10th of Aug.—wintered the six—all came through well. I wintered this way; made a false wall in my stable two feet from the real wall, stuffed with straw between, made enclosure dark, and set them on a shelf. I now have 20; lost one old one by worms. I have hived all swarms this year, in frame hives, nine standard frames to the hive. Is this the right size? Bees doing nothing at this time. Had a rousing big swarm to-day. it came out of a hive that I had not touched. It is one of the descendants of the August swarm, they now number four. A. H. BOWLES.

Cloverland, Ind., Aug. 7th, '76.

We fear you are a little careless, friend B., although you have had excellent success. We can hardly think your colony was killed by the worms, nor can we comprehend how you had a swarm of bees when no honey was being gathered. We have several times heard the remark that the bees were doing nothing, when it was only because their owner had failed to give them room. We have colonies now—Aug. 6th—that are at work in 30 section boxes, the honey being from red clover, and yet some of our neighbors are feeding. The yield many times, in the fall, comes quite unexpectedly; and a colony suspended on scales, will many times show quite an unexpected result on the dial.

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I send you by to-day's mail a piece of drone comb containing worker bees; the piece it was cut from, was about 6x7 inches square, about one-half worker and the rest drone comb with workers in. Sometimes the drones and workers will be mixed in the comb. What do you think of it? R. R. MURPHY.

Garden Plain, Ills., Aug. 4th, '76.

We have frequently found workers in drone comb, but in all such cases have found the openings to the cells contracted with wax until they looked almost like ordinary worker cells with very thick walls; the workers reared in such, were of the ordinary size, and the capped brood, was capped with the common worker caps. Strange to behold, the piece of brood sent us by friend M., was drone comb full size, and the capped brood looked precisely like drone brood, except in having flat topped cells. The bees which hatched out on the way, are certainly remarkably large for bees just out of their cells. If you will take care of that queen friend M., you may have something worth considerably more than "Albino" bees. Tell us more about the colony; are they all large, and how about their honey gathering powers?

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Our friend Salisbury of Camargo, Ills., sent us a queen by mail with the following, pasted on the cage.

A QUEEN BEE.

She was one year old the 12th inst. Bred from an imported mother, from the Highlands of Italy—came off with a prime swarm of bees the 6th inst. leaving behind for her master, 60 lbs. of fine comb honey.—Tiny insect although so small, how wonderfully formed, and how grand in results! A. SALISBURY.

Carmargo, Ills., July 31st, '76.

If a handsome queen is neccessarily a yellow one, we can not call her handsome; but if one that fills comb after comb with eggs, as regular as hills of corn in a field, is a beauty, we may call her comely indeed. Thanks friend S., she is domiciled in the house apiary with your name on the register card above her, and with abundance of chaff shall she and hers be made happy, ere the frosts of winter come.

I enclose a small tin staple similar to some I have been using for fastening surplus honey frames together. Do you ever have any difficulty with combs breaking down in hot weather, because the bees have not fastened the combs to the bottom of the frame? I do, and think that a triangular piece, or something similar to the comb guide used at the top, will cause the bees to fasten the combs at the bottom, and am making a lot of frames with triangular bar for the bottom also.

EDGAR SAGER, Hudson, Ill., July 31st, '76.

The staple enclosed is made of a bit of tin 1 inch long, and $\frac{1}{8}$ wide, sharp at both ends. The points are bent square so as to be just $\frac{1}{4}$ inch long, when done it is much like this —.

We have had some trouble with new combs, when we were so careless as to tip them on one side before they were fastened at the bottom. If they will not build them down, push in a strip of worker comb. We do not think a comb guide would help the matter for they would stop just before they came to it, as before. Our neighbor Blakeslee makes them finish the comb to the bottom, by raising the frame a little higher than the rest. During a heavy yield of honey, ours do it without any care of this kind. The fdn., secures this beautifully. The triangular guide has we think been mostly discarded, as too clumsy and inefficient.

I have taken 6000 lbs. of nice clear thick honey from 36 colonies, made strong by putting 70 stands into 36 in the spring. I think this is the plan for surplus; there is no money in a weak stand of bees, but two weak ones in one, will pay largely. Honey 20c.

M. M. MCFATRIDGE, Carthage, Ind., July 29, '76.

This result is equal to about 166 lbs. per hive. Had the 70 hives remained single, we should have to get about 85 lbs. per hive to get the same result, and the 36 colonies of bees, would be worth, without hives or comb, at least $5.00 per colony. Taking this view of it, there was quite a loss in uniting, aside from the time and trouble taken to do it, but if the 70 colonies were so weak that they would not have pulled through, or at least so as to have been of any profit, then assuredly the plan of friend M. is best; and as 6.000 lbs. of honey is an unusually good crop for even 70 stands, we may conclude his method is a pretty safe one. If we *cannot* get our bees through the spring strong, in any other way than doubling up, very likely we had better do it. But if one has only choice queens, what then? Chaff is our last hope, and we shall give it a pretty thorough test this winter.

Universal hoop hive is too light for this windy country. Bees wont work in your small sectional frames, have put on glass boxes and now they work all right. Foundations bulged badly, hence perhaps the trouble.

Your honey *boxes* are tight, and you very likely have not made the openings in the sections tight with the quilt or otherwise. We cannot discover that honey boxes need any ventilation at all, and they work best for us when they are as tight as a bottle. Of course the hive should be shaded. We have had the very best success with the sections, and have observed that the bees always go to work best when every opening above is closed. Pure wax gives no trouble by bulging, even if the sheets fill the sections.

How can I tell sealed honey from sealed brood?

Some may smile at this query friend A. The brood is capped with a substance much resembling brown paper, while honey is capped with pure wax. Besides, the latter is capped over smoothly, while the former is slightly raised or rounded. Pick open one of each with the point of your knife, and you will see how different they are. Brood occupies a position in the frame nearly in the centre, while the honey is usually at the extreme ends and corners.

Do the bees in queenless colonies never build worker comb? I have a hive in which I can find no queen, but bees are building worker comb only, have every cell capped over.

It is a rule with very few exceptions, that bees build only drone comb when destitute of a queen, but it is difficult to get them to build any comb at all, at such times. We should call it good evidence that they have a queen if they build worker comb. The queen may be one that will not lay; such are occasionally found.

You furnish us with so many cheap and useful articles pertaining to the apiary, why not also cheap extractors? I saw one some years ago in the old country, looks about like following diagram and works well. G. S. AGERSBORG.

St. Helena, Neb., July 27th, '76.

The diagram mentioned is a square box, with another made to spin on a pivot inside of it, and the motion is given by pulling a rope round on the shaft. Wood is too heavy and clumsy for an extractor and the plan of getting the motion is very objectionable for rapid work; the use of the gearing is as much or more to stop the combs quickly, as to get up the required speed; and to avoid throwing out the larvæ, we wish the speed entirely under the control of the operator. We want the very best we can get for an implement that is required to do the amount of work that the extractor often is. If you are compelled to hire help, a good machine might in a single season save you $25.00, that would be wasted with a poor one.

Am busy as a bee, extracting and taking off boxes Hives full of honey of a nice quality; weather hot and dry. Am anxious to try your extractor. My extractor bulges the combs and breaks them loose at top bar, or an inch or two below rather. Hope the wire of yours will not give enough to damage the combs. M. PARSE, Pine Bluff, Ark., July 28th, '76.

No wire cloth can be made to answer the purpose of itself, in our opinion, for if made large enough to stand without support, it would retard the rapid discharge of the honey from the cells. Since we have used the metal bars with edges toward the wire cloth, we have heard no word of complaint of combs being broken, or damaged in the least.

We have not had more than a month or five weeks of honey weather, but in that time in some localities here the bees have been doing wonderfully well.

Kind regards, J. HUNTER.

Eaton Rise, Ealing, England, July 17th, '76.

DEAR NOVICE:—I would be very glad to hear from you, how shaking off the bees, and extracting work in the house apiary. My bees again have dwindled very low. It is my opinion that the escape of animal heat, and partial starvation, are the very causes of the mischief. The box and straw hive bee-men are very exultant; their bees are very strong, and swarms are plenty, while I have to bother on in a very poor way.

I want advice of great importance to me just now. Would you advise again, the feeding of sugar syrup for next winter? Have you any experience that the syrup can crystalize in the cells and become so hard as to be worthless? This is very important to me.

I wish friend Bolin would be so kind as to state when he feeds his bees; if he does so before they have flown in the spring.

I should be glad to hear how it is now with Hosmer, how many hives he has, and a present statement of his business; also of Adair's four feet hives. It is a wonder we hear so little of them just now.

JOSEPH DUFFELER, Wequiock, Wis.

The house apiary is not at present a success with the extractor, and we are very doubtful whether it ever will be. One great trouble is the propensity the bees have to crawl all over the walls, and even over the ceiling of the building when disturbed, as they have to be in extracting. If we could have each hive stand away from the wall, and four or five feet from any other, perhaps it might answer; but even then the labor of sweeping the room and keeping things tidy, making the doors shut close without sticking, etc., would we think more than balance the advantages. In the open air, dame nature does all the dusting, washes off the hives, dispenses sunshine unsparingly, and furnishes shade if you only plant the grape vines. We should have no fear whatever of the crystalization you speak of. In feeding barrels of sugar we have never had any stores that the bees could not use. If the stores are well sealed up, whether sugar or honey, and the too rapid escape of animal heat is prevented, we have *strong hopes* that all will be well.

We are sorry to say that Mr. Hosmer has apparently abandoned bee culture; whether because he could not again equal the great report that so much was said about, or because he failed in wintering, we are unable to determine. The last we heard was that he had more hives containing moth eaten combs, than containing bees. Adair will have to be classed with some others who made a great ado about the new discoveries they had made, yet were very soon silent and forgotten. Those who keep steadily at work, satisfied with things we have already, and who have no time to tell of their great achievements, are the successful ones. *We* will try and take a little of the last item.

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I have finished my extractor with the gearing I had of you and used it. It runs like a top, is complete in every respect, except I cannot get the inside out without taking out the screws. It would have been cheaper to have bought the whole inside work of you for $5.00. It has cost me $6, though I could have another made cheaper. It is in a nice tub I made myself. I discover my bees at work mostly on Burdock, which I never heard of before as a honey plant.

N. A. PRUDDEN, Ann Arbor, Mich. 3d, 1876.

Why do you wish the inside out of your extractor? Certainly not to clean it, for it is in the very best shape where it is, if you are provided with a tea-kettle of boiling water. If you wish the can for some other purpose, you want the castings and all out of the way. Put the cloth cover over the machine when not in use, and the honey need not be washed off until the end of the season, for it is the very best protection against rust. We have counted more bees on a single plant of burdock than any other plant we ever saw.

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### ANOTHER LINK IN THE CHAIN OF PROGRESS.

I always want to "take my pen in hand" after reading a fresh No. of GLEANINGS, but have so little time.

The honey season has been very short here, lasting only four weeks, and some of the time not very good at that. Still my bees have stored several thousand lbs. of comb honey for me. But I started to say that I think that, if properly fed, there would be no difficulty in getting bees to utilize the cappings that have been taken when preparing combs for the extractor. I have noticed the present season while watching bees work, through glass, that before adding wax to their combs they tear it into minute pieces. And this is why they will color their combs beyond the foundations, when given them. They tear or bite off the wax from thick foundations and use it in other places. It occured to me that if that were the way they built their combs, if wax in the proper condition were placed in their boxes it would be readily appropriated. I did not think of cappings or I might have tried them. But I went to some nice bright yellow wax that I had, and with some glass, scraped off a quantity and put into a box that bees were at work in; no sooner had I put it in the box than the bees pounced upon it and began to tear it in pieces and add to their combs. The next day the combs, where they were working fastest, were yellow instead of white. They took the wax all up, after which I fed them more of the same kind, and of other colored wax also, with equal success. I hope no enterprising yankee will patent the idea. But when we practice a little more, all we shall have to do will be to put on our boxes with the proper amount of wax in them and just watch and see the most beautiful combs built down as if by magic. Then how those people will groan who have invested in foundations or foundation machines! All we shall have to do will be to furnish the wax and the bees will build the combs that will not be wax, but real combs. Don't you see! But you will excuse my enthusiasm, you know our brotherhood are apt to be a little enthusiastic over something new.

To be frank, I have no doubt in my own mind, from the experiments I have made, that wax can be fed very profitably. Still if the foundations prove a success as now seems quite certain, that will doubtless be the best way in which to furnish wax in quantities.

Hope my experiments may throw some light on the question raised in the last No. of GLEANINGS.

J. E. CRANE.

P. S. I want to ask G. M. Doolittle if smoking honey with sulphur or brimstone does not injure the flavor of the honey. J. E. C.

Bridport, Vt. Aug. 4th, 1876.

What a people we are! Friend Smith discovered that cappings would be used for comb-building, and we were fortunately able to present the idea to our 1697 readers. The result of the experiments of only one of them, is given in the above. We think those who have a fondness for having their bees build their combs in some definite form, or place, will prefer the foundations, but have no doubt but that wax scraped up in the form of thin shavings as above, will prove successful.

The Gleanings just received. And should I receive no more, I consider that I have received the worth of my money in the August No.

My six colonies have increased to 24 all in good condition. Have taken 450 lbs extracted honey which has retailed at from 15 to 30c. per lb. and at present I find I have many customers who have developed a taste for honey which I cannot supply. Can you furnish clover honey by the half barrel and at what price ? E. T. Fogle.

Hartsville, Ind. Aug. 5th, 1876.

The above shows what may be done with our home market; we think every neighborhood will do nearly as well, if it be thoroughly developed.

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Well Novice you forgot my advertisement again didn't you ? That is the way children are usually treated treated and I am somewhat used to it. But I am 19 years old to-morrow and I have a notion that I ought to prosecute you "for breech of promise." You made proposals which I accepted, complying with your stipulations, and your failure to perform your part of the contract has ruined my prospect of selling queens this year, and nearly "broken my" ——ambition ; and I feel indifferent whether you remember me now or not, since it is to late to do much good.

Comb foundations are a success with me. In 24 hours the cells are lengthened and contain honey and eggs. I have ordered 2 lbs. more through J. W. Cramer and our Kellogg of Oneida, 12 miles from here. I visited their apiaries a short time ago, (Kellogg insists that his is a bee yard) K. raises honey , and C. raises queens. Both have very nice combs built on the foundations, and say that it has been worth $3. or $4. per lb to them.

I think the quickest way to lay out the hexagonal apiary, is to take a strip of pine 1 inch square and a little more than 6 feet long, bore holes 6 feet apart and drive some pins into the holes so that they will stick through 6 or 8 inches, then have a straight line across the yard, or commence on one side. Divide the line into points 6 feet apart with the measurcing rod, drive a stake at each point, then set the point of one of the pins at the first stake, and with the other make a scratch on the ground in the form of an arc ; then place a point at the next stake and make a circle or an arc, and where the lines cut each other drive the stake for another grape vine, and so on tothe end of the row. Take the second row as a guide to make the third form. The apiary can be continued in any direction and will always be accurate.

There are two honey plants that are proof against dry weather. One, a tall weed with blue blossoms, the other is short with yellow blossoms. They never fail to yield abundantly. They blosssm from the middle of July to middle of Aug. Lots of honey coming in. Some bees have increased six fold. Last night I opened a long queen cell and found a chrysalis with her head to the bottom of the cell. Did any one ever find a queen in such a position before ? Lloyd Z. Jones.

Galva, Ills. Aug. 8th, 1876.

We once knew a man who had such an inveterate habit of telling things that were not quite the truth, that his friends finally decided to call on him with a remonstrance. To their surprise he admitted it at once, and gravely informed them he had shed "barrels and barrels of tears" over that very infirmity, but all to no avail. Now we have not done quite so badly, in regard to the mixed way in which our business has some of it been done this summer, but we felt so badly about the advertisements, that we have given the whole matter over into the hands of one of the clerks, and have just bought her a bran new book in which to note down all the items, etc. Tell us how much will make your loss and disappointment good, friend J., and we'll treat you as deferentially as if you were 80 instead of 19. Did not your queen have so large a cell that she turned round in it ?

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Extractor splendid so light and nice. My boy had a war dance around it. Will try it right away after dinner. Hives full of honey of a splendid quality and still coming in, we are busy as bees.

M. Parse, Pine Bluff, Ark. Aug. 2d, 1876.

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I am still experimenting with comb foundation of all shades, from you and Mr. Perrine. Haven't tried far enough to speak decidedly on any point yet. How do you *know* that the bees "draw out" the wax rather than cut it *down* to the thickness they choose and then build out with wax from their pouches ? But little honey has been coming in, but why do not strong stocks GO AHEAD and make some progress "drawing out" the cells ? Does it take both strong stocks, honey and time, to do this "drawing out" business ? James Heddon.

But your experimenting has not gone *very* far if you have not yet tried a piece of white and a piece of yellow, side by side. We shall have to consider you about a year behind the times if you have not as yet seen your bees use wax of different colors and carry the cells clear to the top without any change in color. They will only build out the combs when they are needing them, but with a very moderate yield of honey, we get a frame full of foundation made into fair comb in 24 hours.

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I have had better success with box honey than ever before, and will tell you the reason. They usually swarm when the boxes are partly filled, which stops work in them at once. If you cut out queen cells and return the swarms they refuse to work or soon swarm out again. The way I fool them is this : when they swarm put them in an empty hive just beside their old stand ; when nicely at work, say in one or two days, give them their own old combs and boxes and everything goes on just as though nothing had happened. My bees are now working finely on the rape and buckwheat. I have about 2300 lbs. of white clover honey.

J. L. Wolfenden, Adams, Wis.

We are inclined to think your plan which has been given several times before, with some variation, the best one if comb honey is wanted, and no increase of stocks. If left very long, considerable comb will be built, but this is just what is needed for starters. We think if the new hive is put close to the old one, it may be removed so as to oblige them to take their old premises the very next day. We judge so because we have hived them in their own hive successfully by simply moving it a few feet. We certainly do not wish to be obliged to lug them about just to accommodate their whims, more than is really necessary.

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I am anxious to see one of your cases of boxes, or frames. Have a good strong swarm ready to fill it as soon as received. This swarm is in the Finn hive, and has given me 110 lbs. of honey besides a swarm. Bees have done exceedingly well here this season. I received one lot of fdn. of you last spring, which I used for guides ; it did finely.

George L. Gast, Le Clair, Iowa, Aug. 4th, '76.

DEAR NOVICE :—You have lately received an order for several pounds of fdn. from friend Cramer. Several of us here have been using it and think it is *the thing* for nice straight worker comb. We have had two lots of Perrine at $1,20, but when I told them we could get it at 67½ cts. of Novice, in 10 lb. lots, we all concluded to switch off onto your track. Tell those who say fdn. are a humbug, and that straight worker comb can't be made from it, that they are very much mistaken, and if they could just step into our Oneida bee yards, we could show them as nice worker comb as they ever saw, built up out of fdn. Many thanks to you Novice, for shortening the long word to "fdn." Bees are doing tip top. Stocks just crowded with bees, brood and honey—have 17 now and will have 20 soon. We have one acre of buckwheat in bloom, and white clover is as thick as ever again. I have 16 swarms to take care of out in the country, and 28 in town. Hives to make for them and outside parties, and you may be sure father and I are busy.

Novice, I have finished my new extractor, and if you can beat it you must have a mighty good one.

WILL. M. KELLOGG, Oneida, Ills., Aug. 14th, '76.

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I tried flat sheets of yellow wax and what surprised me was they would build on flat sheets as quickly as on fdn. in the same hive, thinning them down, and bleaching them white. But the cells were not so regular; and sometimes they would fill a space between cells with the surplus wax. Tell Heddon that my black bees are beating my Italians for honey, this year; but perhaps pasture is better where they are, in the country; my Italians are in town.

JOHN LAFFERTY, Martinsville, Ill.

Enclosed find remedy for ants. I have used it for two years with great satisfaction. It will drive the small black and red ants from any of their haunts about the apiary, honey house, or pantry. I wrote you about it nearly a year ago, but did not see it in GLEANINGS. It is a dead shot. Try it. We call it wormwood. Rub the leaves up, scatter them around their haunts, and then see them take up the line of march, each with an egg in its mouth.

H. ROOP, Carson City, Mich., Aug. 11th, '76.

I wish to report my yield of honey. From one hive, two story, (Hybrids) since July 10th, 180 lbs. For week, ending Aug. 5th, 58 lbs., four times extracting. How is that for *high ?* Shall report further.

J. D. C. MCFARLAND.
Greenwood, Mo., Aug. 12t, '76.

A neighbor of mine had a singular occurrence to happen the other day. He had a queen in a cage, and getting stung rubbed on coal oil, after which he picked up the cage containing the queen, when she died in one minute.

J. B. DINES, Libertyville, Mo., Aug. 9th, '76.

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For comb honey, the Quinby hive is far ahead. Think it safe to say that I can get twice the amount of comb honey from the Q. that I can from the L. hive. Commenced the spring with 70 Q., and 74 L. hives of bees. Put all the new swarms into L. hives. From the 70 old swarms in Quinby hives, have taken 600 lbs. comb honey. From the 74 old swarms, and all the new (136 which were put in L. hives) have received 300 lbs.; you may figure it to suit yourself. The great objection to the Quinby hive, for me, is handling, shipping around the country, etc. I can fix up a load of L. hives as quickly as I can fix one Q. hive ready for shipment.

I am willing to answer any question from you to the best of my ability.

HENRY PALMER, Hart. Mich., Aug. 7th. 1876.

Three-fourths of my hives that swarmed, or from any other cause lose their old queen and rear a young one, destroy the young queen before she becomes fertile. They will imprison the queen when only three or four days old, bite away her wings and finally sting her. The only way I can get a queen safely fertilized, that has been hatched in a full colony, is to take two or three frames out of the hive with the queen and adhering bees, put them in an empty hive and set them off by themselves until the queen begins to lay, when the frames are returned to the hive and all goes right. What is the cause and remedy for this unusual course? By dividing a colony into several parts and giving each division a queen, we get them all right and the bees do not hurt their queen.

J. A. BUCHANAN, Wintersville, O., Aug. 8th, '76.

The trouble mentioned is very strange and unusual, and we can not help thinking you rather exaggerate the number that behave thus. During a dearth of honey, we have had a few cases of the kind, but feeding, or a natural flow, has always been a remedy. We should be more inclined to think you would have such troubles with queens reared *away* from the main colony.

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August GLEANINGS said that my best swarm of bees had made 150 lbs. of comb honey in small frames or sections, by June 13th. It should be *July* 13th. I don't know whether it was my mistake or the type-setter's. They now have 221 lbs. and one more set that is nearly ready to cap.

F. M. DICKINSON, Whitney's Point, N. Y.

This is the best season for honey and bees I have seen for many years. My 38 swarms have increased to 144 and I have extracted 1000 lbs. and got about 100 lbs. of comb honey and they have got abundance of honey in their hives to winter them. My experience has taught me that the best place to winter bees is on their summer stands with the second story above them filled two-thirds full of chaff or cut straw, with ventilation above the straw to let off the moisture arising from the bees. Have large swarms, plenty of sealed honey and give them an abundance of fresh air from below, and then we can bid good bye to the bee disease.

N. E. PRENTICE, Castalia, Ohio, Aug. 12th, '76.

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I read all four of the bee journals and my opinion is that my letter to you in regard to introducing virgin queens, which you published in July, is a fair sample of more than one-half of our bee literature, it won't do to depend on. After reading for two years the experience of others, stating that a virgin queen not over so and so many hours old can be put in any colony of bees without failure, and my own first experience with said number of queens which were all doing well for 24 hours, I concluded that it was a success sure enough, and as I was ordering some goods from you just then, I made mention of it to you, but the next mording, before my letter reached you, I found that I had just so many queenless stocks. I picked up more than half of the queens dead in front of the hives and the balance were killed so dead I could not find them at all. I have 10 stocks of bees. Introduced virgin queens to all of them as soon as the old one was removed, only 3 out of the 40 received the first young queen I gave them, but after a stock has been queenless 5 or 6 days and all queen cells removed I have been successful with virgin queens every time. I have experimented in that line to my full satisfaction this season. A. W. WINDHORST, St. Charles, Mo.

DEAR NOVICE:—In speaking of preventing swarming by the use of empty combs, (page 185) do you mean empty combs, or foundations? Your saying "If we use white or even a very nice yellow wax for our combs," makes the impression that fdn. are to be used. Do you mean that the queen does not go up if there is no division at all between the two stories? You say put in one less comb than usual and spread as fast as the cells become lengthened. Do you mean to keep taking out frames and spreading? B. LUNDERER.

Chicago, Ills., Aug. 8th, 1876.

We meant empty combs; sheets of fdn. will not prevent swarming, at least not as surely as empty combs. If they have been once started, so that the bees recognize them as comb, undeniably, they seem to be all right. In perhaps 50 hives of from 2 to 4 stories, we have found brood in not more than two or three, and only in one or two combs at that. We used nothing between the two stories but perhaps the great yield of honey may have had something to do with it. We take out a comb when spreading, but some of them have been so weighty to handle, that we have concluded there is an extreme to be avoided. We have quite a number that weigh 10 lbs. and over. When so very heavy, they are apt to attach to the ends of the hive, and to each other. It would now be worth considerable money to us to have this nice clover honey in the Universal sections instead of in the large frames, and the bees would have put it in them almost as readily. We hope we shall know next time.

Extractor received some time ago and gives entire satisfaction; only it is a little too wide for my Champion frames, the top bars not quite reaching across the revolving frame so as to hang. 'Twas badly bruised in transit, the *sides* all being jamed in. I *have used* the——— Extractor—a poor thing— also ———a good machine, but the Novice Extractor is the one for me hereafter. A. CHRISTIE.

Maple Landing, Iowa, Aug. 2d. 1876.

The above illustrates the utility of giving exact dimensions of your frames. No more bruises hereafter with our new plan of crating, and yet the charges are no higher for shipping than heretofore, for we make the weight of the whole come under 25 lbs.

Bees are not doing as well as last year. I have 3 old and 4 new swarms (one second swarm went to the wood), have taken out about 200 lbs. and I think I could now take another hundred; bees not gathering honey at present.

My report for the year ending May 1st, 1876, is as follows:

| Apiary. | Dr. |
|---|---|
| To 1 swarm bees | $10.00 |
| " 1½ days' extracting | 2.25 |
| " Sugar for wintering | 4.50 |
| " ½ day getting home and putting in cellar | 75 |
| " Cartage | 25 |
| Total | $17,75 |
| | Cr. |
| By 152 lbs. honey sold | $29,24 |
| " 40 " " kept (estimated) | 6,00 |
| " 2 swarms left May 1st, 1876 | 20,00 |
| Total | $55, 21 |
| Profit | $37,49 |

S. ROWELL. Faribault, Minn., Aug. 2d, '76.

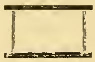
The comb foundation works like a charm. Bees began work on it within an hour from the time they received it. I thought *I* put up a little the neatest frame in America but I now present *you* the belt. I call yours the *ne plus ultra*. The metal corners are a "boss" invention. Received your sample too late to order this season, but you will hear from me next. I have most of my comb honey put in 1½ lb. sections, some in fancy shapes for fancy prices, for use at wedding parties and other select feasts, and some in 3 lb. boxes like the one I enclose you. Sample is 1-64 full size. Box of course contains two combs instead of one, as started in sample. Bees quit storing in supers a few days after I put on my samples, but hope to have some filled from buckwheat and wild flowers by Fair time. What do you think of the box? Four glass sides and perfectly tight. Less work and better show by omitting the corner posts. I have a candy jar filled with one solid comb of beautiful white clover honey. Have some of the most beautiful honey this year, extracted and in combs that I ever saw. Our bees have done well this season. Use a 12x12 frame, which *we* think is *the* one.

Scientific bee-keeping is in its infancy in this county. Not more than three or four in the county who use movable frames and know how to appreciate their worth. Mr. Ebersole, near Upper Sandusky, has 60 swarms in American hives, which are making him some money. His extractor being an old revolving can, he is bound to have one of Novice's next season. J. M. GONNELEY.

Carey, Ohio, Aug. 9th, 1876.

The sample honey box sent by our friend is certainly a novelty, and is the cheapest arrangement for a box with four glass sides, we have yet seen.

GONNELEY'S HONEY BOX.



In the above cut let the heavy lines represent top and bottom, made of wood, and the light lines the glass. The glass rests in a saw cut made near the ends of the wood, and the glasses are ⅛ inch wider than the woods. This completes the top, bottom and ends. Now cut glasses for the sides of such size that they just drop between the end glasses and lap on the wood half its thickness. Our friend fastens all secure with glue or melted wax, but we would suggest four glazier's tins, one at the top and bottom of each side glass; if driven in half way and then bent down on the glass, it holds them very secure.

Our section boxes are pleasing so much better than any glass boxes, that we have rather discarded the latter. With the same sticks our sections are made of, we can easily make diamonds, triangles, hexagons and a great variety of figures. To keep them firmly in place, put a very little hot glue on the corners. For the squares and triangles, this is not needed.

COMB FOUNDATIONS.

It works to a charm, we now have frames as straight as a board, filled nicely with brood. There is no humbug about it, and I consider it a great help even if it cost much more. I sold two stocks in spring to M. Underwood, of Galva, 12 miles from here, and now he has 11. One left for the woods and he has taken over 100 lbs. extracted honey.

J. H. CRAMER, Oneida, Ills., Aug. 10th, 1876.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," have a friendly chat and feel "at home."]

## CHATTER XXVII.

FRIEND Long, of Howard, Pa., sent for an extractor C. O. D., and we sent just what we supposed he needed, but it seems that he for some queer reason, had given us the *inside* dimensions of his frames instead of the outside, and so his frame would not go inside at all. This caused us to lose the amount of the express charges both ways, but as there was no help, we quickly dispatched another. From some want of care on his part or our own, the second did not answer either, and in despair almost, we sent the third one, feeling sure we had it all right this time. It seems something was wrong still, for this morning the pleasant spectacle welcomed us of the whole three standing in a row, jammed, bruised, discolored, crating broken, and so begrimmed with dust and coal soot, that we should hardly have recognized the work we had taken so much pride in a few days before. While we were struggling against the temptation to feel cross, one of the hands—there are twenty besides ourself at work now—reminded us that the pump had not been repaired, and several more were asking what work was first wanted. To add to our perplexities—we were late at our appointed post this particular morning—some tin that was urgently needed had not been sent, and various other little trials seemed to persist in trying to upset all good resolutions of keeping cool during the hot weather. As usual, soon a conflict began. The voice that kept whispering we were a fool to be run over by every body without saying a word back, was silenced by the other, and very soon we were ready to take the attitude of a pupil, willing to be taught. Said the "still small voice",

"As you now have still another illustration of the way in which *you* have to be taught line upon line, and precept upon precept, you can certainly bear in mind, that you should exercise the same kind and loving patience toward those about you. If you get out of patience with them, how can you expect your own faults to be overlooked and forgiven? Above all will it not be much safer to consider all these trials, and losses of property, as sent you for some wise purpose, and to feel that they have been sent for the express purpose of teaching you some lesson that is greatly for your benefit, if you will keep in the proper mood to be taught. The bruised and soiled extractors that stand before you, point out to you the way in which you have sent them to those who have been so kind as to send you their money, and you, particularly, like to have your things when new, bright, perfect and clean. Would you like goods sent *you* in that shape? With the amount of patronage they are giving you now, you can certainly put the extractors in a nice box. Just think of it! after the loose and careless way in which you have been sending them their goods, they have nearly all sent back to you only kind and pleasant words, and those who have spoken of the jams and bruises, have mentioned it in a kind and pleasant way, suggesting that perhaps it was the fault of the railroad officials instead of your own. As for the lesson, your personal friends, the cheese box makers, can probably make you some strong light boxes that will stand the railroad officials —they are fellow beings too, and will be glad to assist you if you only show them you are not all selfishness—and will keep the machines as clean and bright, as when first put up. Once more; after the troubles you have had from mistakes in the dimensions of frames, do not the three standing near you, teach a lesson that should not go unheeded? Suppose you ask every one ordering extractors, hives or frames, to fill out a blank like the following:

Extreme length of top bar——inches.

Extreme width just under top bar——in.

From top of top bar, to bottom of bottom bar——inches.

If you use Quinby closed end frames, give width of frame, and length of end pieces. If you use a triangular frame, give length of top bar, and distance of lowest corner from top of top bar.

Put the above on all price lists and circulars of extractors, and tell all your friends that have suffered by your carelessness, that you will pay for making the work as it should have been. When you are tempted to object to such 'casting your bread upon the waters' or to doubt that your Heavenly Father will clothe and feed his children while they are trying to be faithful, look back and see where you have gained friends and prosperity by being patient and teachable, and where you have lost by watching to see if any body was disposed to 'run over you.'"

If we get into the way of considering the world at large our friends, very likely they will prove so; but if we encourage ourselves in thinking them cheats, the whole of them, and treat them accordingly, it would not be very strange if they acted in accordance with it. When R. R. men smash our wares all to splinters, shall we feel better for calling them thieves, and wishing them sent to the penitentiary, or in concluding to assume the blame as mostly our own, and determining to so pack our goods that they can hardly injure them if try to? Where difficulties of this kind come up, the blame like almost all trouble is a little on both sides.

I would by no means teach that we should trust every body to do what is proper and honest, whether we know them or not, for very many times we do a person a great injury by giving him credit; but I do mean that every one should be treated kindly and pleasantly even thouh we at the same time refuse a request. We have occasionally orders for goods from total strangers, who say they will pay as soon as the goods are received; but these friends are certainly thoughtless in asking us to do this, and should not feel hurt when told that we have no means of knowing whether they are in the habit of keeping their word good or not. To sell goods low, we are obliged to be extremely careful that there are no losses; and should we send goods without pay, we should assuredly lose, for there are many, who with the best intentions, are unable to do as they wish, and have expected. It seems hard to tell one, face to face, that you cannot trust him, yet it is many times a much kinder thing to do, than to evade the matter, or give something else as an excuse. Be careful how you make promises, careful of your money, careful in regard to your purchases and more careful of the way in which you treat your customers. But be liberal and ready to do more than your part in settling any difficulty.

## CHAPTER XXVIII.

Honor thy father and thy mother.—Exodus xx: 12.

IT was half-past 6, Monday morning, and washing was as usual, well along; breakfast was ready, the children had been called, and your friend, had been summoned from amid the hives where he was in the habit, with comb and towel, of giving the finishing touches to his toilet, while the dew on the grape vine leaves shed a delicious coolness as it mingled with the refreshing morning air. Who could help raising his heart in thankfulness while feeling the exhilaration that comes from inhaling the morning air, and listening to the joyous hum of the bees as they rub their eyes, and dart off from under the broad vine leaves in quest of the flowers they seem to love so much.

We are all gathered at the breakfast table, Blue Eyes and all, all have been served and mamma has stepped out to the stove for something that has been omitted.

"See! papa," says Ernest, "mamma has the poorest ear of corn there is, on her plate; take it away, and give her the best."

"But it will do no good," says Maud, "for she will take another poor one."

We finally played a sharp trick on mamma in her absence, by dividing the poor among ourselves, and making a bargain that each one of us was to endeavor to *make* mamma take the best of every thing by taking the poorest ourselves, whenever there was a choice.

How many mothers are there in our land who habitually give the children or papa the best, and take that which is indifferent, or less desirable themselves? Do you say that every mother does it? Perhaps they do, and perhaps it is a pleasure to them to study the happiness of those near and dear. But are we doing *our* part as well? Mothers are happy in working for their loved ones it is true, but do you not know dear reader what a gleam of sunshine you can throw about that mother's path by simply studying *her* happiness. Now this very minute see if you can not think of some little plan for lightening her cares. Is she going for a pail of water? Slip before her and take the heavy pail out of her hand. Is she tired and weary? See what are her tasks, and ask her if you can not help. Give her plenty of the very nicest kind of fire wood; fix the steps so they are firm and convenient, see to the clothes line; have plenty of good kindling wood, and do all these things as if you were to have a prize at a county fair for the best attempt in that particular direction. Study her wants and wishes, and oh please do not let her get worn out with care and hard work, before she is past the prime of life. Perhaps the rest are thoughtless and careless in regard to her tastes and wishes, let them know that *you* are not, and ere it be too late, strive to, at least in part, repay the kind and loving care with which she has watched your stumbling feet in years gone by. You know better than any one else what kind of fruit or berries she is fondest of, and let her feel that you have remembered it by hunting up the first of the season for her. Are you too busy to take the time to attend to these little acts? Do you not know that He who cares for the sparrows, watches over and guards the pathway of each of us. Again, quarrels among brothers and sisters, do more to make mothers prematurely old than almost anything else; who but a mother, can look upon the children all alike, having the same pure love for one that she has for all.

Do you know how it is in your power to rejoice her heart by showing her that for her sake you will give up every thing for peace? Are you in doubt at times as to what is just right and proper? Go to her and she can tell you, for above all others on earth, is your mother anxious for your safety and well doing. Your friends and neighbors might tell you you were in the right, and your brothers might say your course was well enough, but your mother by that unerring instinct, as we might almost call it, would tell you that she would rather see you on different ground, and perhaps would be unable to even give the reason why, if asked. A man that can always tell his mother honestly all his plans and ambitions, can seldom be a very bad man and a mother's counsels are rarely at fault. I can remember some dark places in my life where the temptation was strong to do as I pleased, and let the world think as they liked; and I can remember reviewing them one by one, thinking what this and that one would think, or say, and with a feeling of stubbornness I was prepared to defy them all, tell them all that I should do as I pleased, and they could do as they pleased, until it came to that mother, who I knew would never reproach, but would only with sorrow bow her head in grief and shame. And at the very thought of her I drew back, and began to think with horror, of the abyss I had just before meditated plunging into. It was her voice that first taught me gentleness, purity, truthfulness, courage, and all that was good and noble; and in after years when I felt that I had strayed away from those early lessons, and when I longed again for the peace, purity and innocence of childhood, it was to her I went feeling that I would like once more to be led into those peaceful realms where dwelt that One of whom she had taught us in childhood. Beware oh my brothers and sisters, of the time when you begin to think yourself more capable of deciding in regard to right and wrong, than is your mother; and when you meditate something that would give her pain, let me implore you to consider.

May I hope that you will to-day dear reader, see if *your* mother is remembered?

# DEPOSITORY OF Blasted Hopes,

## Or Letters from Those Who Have Made Bee Culture a Failure.

BEES have done but little this season. My hundred colonies all came through the winter safely. Have had but few swarms. Have only increased seven and extracted 2400 lbs. Honey all of a dark color, haven't extracted a pound of linn honey. Taking the season through up to this time, I have never seen a worse honey season. E. Coble.

Cornersville, Tenn., July 31st, 1876.

I have kept bees in movable comb hives for nearly six years, with good success, excepting the past year a report of which I give below.

Late in November. (winter 1875-6), I buried seven stocks in a pit, and packed four in wheat chaff. Left them until the middle of April. Two of those in the pit survived, one of those in the chaff "dwindled," and one starved. Some of those in the pit starved. These bees had been fed late (Oct.) with brown sugar (out of doors) and syrup; the sugar being wet caused a great uproar among the bees, and some fighting for the treasure. I think this activity after brood-rearing had ceased, may have been the cause of their dwindling. Having united two stocks, I began the season with only two. These have never swarmed nor gathered any surplus. During June I bought six good sized hybrid swarms for $14,00, and gave them hives full of comb; these have only gathered enough for winter, though they have plenty of brood and are in good condition. I have one of your extractors but have not used it this season. To take advantage of the best yield in this locality we must have strong stocks by the first of June, white and red clover being the main dependence. I. M. Kauffman.

Belleville, Pa., August 21st, '76.

# Notes and Queries.

MR. Gano and myself paid friend J. S. Hill, a visit a few days since. He is criticizing your foundation and wonders what you are aiming at—whether to enlarge the workers—or reduce size of drones. He says worker comb is 5 to the inch, drone 4, yours, 4½. G. Tompkins, Cin., O., Aug. 19th, '76.

[If friend Hill finds any thing that is not right in *practice* we should be glad to hear of it, but if he is theorizing before trying the fdn., we fear we can not help him. The first machine made, the one now used by Perrine, made 5 cells to the inch, but in practice we preferred the size made by Long, 4½ to the inch, and our present machine makes that size. The bees will rear worker brood in either, and the latter is certainly preferable for the honey boxes. We have plenty of reports from both.]

In publishing a part of my last letter, when ordering some extractors you place me in evidence, and the consequence is that I am receiving letters and postal cards form every part of the country enquiring the names of bee-keepers in Italy who send queens to the U. S. I have rec'd the 85th postal this morning. I have answered to about one dozen, but as I have no time, having other business than Apiculture to attend to, not depending on bees for my living, though it is very remunerative yet many think differently, I will comply with your request or rather with my offer, and give the names of a few of the bee-keepers in Italy who have sent Italian queens to this country, and hope that all those sending for queens will be as successful as I have been.

Louis Sartori, Milan, Italy.
D. Tremontani, Porta Galliera, Bologna, Italy.
Joseph Fiorini, Monselice, Italy.
Auguste Mona, Bellinzona, Canton Tessin, Suisse,

Mr. Tremontani and Mr. Mona are the only ones that I know who will guarantee safe arrivals of queens. Mr. Sartori in answer to some inquiries, states that he ships queens to America every 15 days with the best success; but he did not state to me if he would guarantee safe arival of queens. He gives me his price as $2.00 in gold for each queen. Mr. Tremontani asks the following prices, according to season: in July and August $1.50 in gold, in September and October, $1.20 gold, ready packed for the U. S. Mr. Mona's prices are about the same. Each box the queen is sent in is about 6 inches square and weighs about 10 ounces. The best way of getting queens is by the European Express, which has agents in every city.

The honey season was not very good with me this spring but I anticipate a good fall.

Paul L. Viallon, Bayou Goula, La.

The comb fdn. in *tin* came to hand yesterday, found them all *sound and straight.* Put in some last evening and I found them half celled out this morning, but am convinced that they should not come more than two-thirds down on the frame as they will wave out and bulge.

J. R. Pratt, Manchester, N. Y. Aug, 19th, 1876,

[But they will not wave or bulge, friend P., if we leave only ¼ of an inch at the sides and bottom. In this respect we have had better results with the yellow, than with any white wax we can buy, and we find it an easy matter to have entire frames without a single cell of drone comb.]

I will tell you what my three swarms of bees have done. I wintered them in a house and they commenced swarming June 11th; July 6th, had increased to 13 swarms, but think they swarmed too much for their own good. I use a hive of my own make, holding 16 closed top frames. I use division board according to their strength and 6 honey boxes on top frames. Size of frame 11½ in. by 12½. My first swarms have filled their hives and are at work in boxes. I have been to one of my neighbor's this A. M. and taken about 250 lbs. from boxes on top of straw lined box hives. Some of it had been on for 2 or 3 years.

S. B. Trumbull, Hudson, Mich. Aug. 21st, 1876.

My bees will not work in the boxes I obtained from you. I put them on a hive which was very strong and full of sealed honey. They were on a week and had done nothing and I thought I would force them by feeding; I have fed them honey enough it seems to me, to of itself fill the boxes, still the boxes are ignored. When boxes were first put on, a few ran up into them, but since then I have not seen a bee enter them. I shall try them a little longer and if they do not work I will take the extractor or cut comb from the frames. W. C. Grier.

Lamar, Mo. Aug. 7th, 1876.

[Just because you used neither fdn. nor guide combs we suppose. We hardly think one in ten of our colonies would give us comb honey under the same circumstances.]

I received two nice Italian queens from J. M. C. Taylor. but lost them in introduction. So that has upset the notion in my head of Italianizing my bees. I am confident that queens are very seldom safely introduced; that the majority of the bee-keepers sacrifice five or six before they succeed in introducing a single queen. Perhaps you will say there must have been a queen in my hive that I failed to kill, but I am sure there was not one; for there was not a single egg in any of the cells at the time of introducing the Italian queens. So the colony remained queenless until I gave them common brood to raise a queen, when they at once commenced to make several queen cells of it; is there any possibility of there having been a queen in the hive before introducing the Italian queens? W. T. Seal.

Chaddford, Pa. Aug. 9th, 1876.

[If the bees commenced cells on the brood given them, it is pretty certain they had no queen, but you are going to very great extremes in presuming the number of queens lost so great. Judging from reports, we think not more than 1 in 4 is lost in introducing, counting new beginner's work and all. The plan we have given so often obviates all risk, viz., frames of hatching brood.]

The last fdn. you sent me seems to work all right. My only apprehension is about the queen's laying in it although she has used a little in one hive. Wish you would give me a word of your experience in this respect. J. P. Moore in last *A. B. J.*, frightened us about that. J. F. Spaulding.

Charles City, Iowa, Aug. 7th, 1876.

[With clean nice wax, we find the queens laying as quickly as in natural comb. Queens are quite sensitive, and it would not be strange if they objected to trusting their children in cradles having an offensive taste or smell. If they object to any we furnish, send in bill and we will pay damages. See what our next friend says.]

The foundation that you sent me is received and I must say, is a perfect success. I put it into frames and found the queens laying in it twelve hours after its insertion. Next summer I must have 400 weight of it. No trouble with having too much drone comb in a hive now. I think it one of the greatest steps ever made in bee-keeping.

E. W. Alexander, Camden, N. Y.

I have made over 200 Quinby frames like sample you sent me; transferred all the combs out of my old style Quinby frames into them. I turned all the frames upside down in the hive for five or six days while the bees were fastening the combs, it works splendidly, and a honey board in 2 or 3 sections on that kind of a frame beats quilts all to pieces. It gives the bees a free passage of ¼ inch all over the frames. Just try one or two of them; you can transfer the combs and bees from an L. into a Q. frame in less time then you can extract the honey if it is all capped over. A. W. Windhorst, St. Charles, Mo.

The royal food for the young queen in the cell, is composed of young grub bees, cut up. *Am I right?*

A. L. Klar, Pana, Ill.

[We think not. The idea has been often advanced, but observation and experiment do not verify it.]

I send you $54.00 by express for 100 lbs. worker fdn., yellow. I don't want them too light; about 5 to 6 square feet to the lb. R. S. Becktell.

New Buffalo, Mich. Aug. 19th, 1876.

Comb fdn. got of you last Wednesdey, the 16th, is filled out and to-day—22d—extracted honey from it to give queen room. Will M. Kellogg.

Oneida, Ill. Aug. 22d 1876.

HONEY BEES.

SEND for E. W. Hale's price list of Queens for the year 1876. All Queens raised in full colonies and from Imported mothers. No Bee disease in my locality.

9 Address, E. W. HALE, Wirt C. H., W. Va.

FOR SALE!

Italian and Hybrid Bees for sale, in Quinby and Langstroth hives. Price, $10.00 per colony.

Will sell 30 swarms for $250,00.

Hart, Oceana Co., Michigan. HENRY PALMER.

Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

IF WANTED BY MAIL, ADD 25 CENTS PER POUND FOR PACKING BOXES AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 40 cents per pound.

We will pay 33 cents per pound cash for bright yellow wax, or sell it for 36.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter (enough for 1 Universal case) weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over. A. I. ROOT.

Medina, Ohio.

BOX HIVES AND BLACK BEES.

Pursuant to returning to the box hive system, James Heddon, of Dowagiac, Michigan, will sell his Glenwood Apiary, at the following prices, to-wit: 80 colonies of Italian Bees for $640, all in 8 frame (Standard) Langstroth Hives, of best pattern; 28 colonies of Italian Bees in 9 frame Oatman hives for $224. These Bees are nearly all pure, carefully bred, *perfectly healthy*, and will be sold only in two lots, as named above, and to purchasers on the ground. For further particulars, address,

Dowagiac, Michigan, JAMES HEDDON.

TEA-KETTLE BEE-FEEDERS, large enough to feed 18 lbs. at a "dose;" with it, enough can be given in one day, under *favorable circumstances*, to last over winter. Price reduced to 75c., or $1.00 by mail. Quart (3 lbs.) feeder, 10c.; by mail 16c.

A. I. Root, Medina, Ohio.

FOR SALE!

Fifty (50) good strong colonies of Italian and hybrid bees. Price, one colony $10,00; five $45,00; ten $80,00. In 8 frame hives, each $1,00 less. Hybrids each $1,00 less than above rates. Also hives full of comb (frames are all 14x11) and 25 or 30 lbs. honey and bee bread, for wintering bees on. Price $6,00. Order soon. Will deliver at depot Oct. 1st to 15th.

9-10 R. S. BECKTELL, New Buffalo, Mich.

Cheap Honey.

For feeding Bees or other purposes.

I have some good buckwheat honey that I will sell for seven cts. per lb. if taken a barrel (40 gallons) at a time.

J. L. WOLFENDEN,
9-10d Adams, Wal. Co., Wis.

1876. Italian Queens. 1876.

We will sell queens in September at $1,00 each. ALL WARRANTED PURE, LARGE AND HANDSOME.

*SAFE ARRIVAL GUARANTEED BY MAIL.*

9 H. ALLEY, Wenham, Essex Co., Mass.

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of his responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

## IMPORTED BEES FROM ITALY.

We continue to import bees from Italy, every two weeks during the season, as we did last year; and we offer them for sale as usual.

| | |
|---|---|
| Prices: Imported Queen | $10,00 |
| Home bred (tested) | 5,00 |

We guarantee safe arrival of queens. We can furnish to our customers the best references among the most noted bee-keepers of America and Europe.

We sell none but healthy and prolific queens. We wish the reader to bear in mind that *nine-tenths of the American queen breeders are now breeding from queens imported throuk us.* Many of them purchase imported queens from us *every year*.

If necessary we will give to those of our customers who wish it, evidence that we receive 22 queens from Italy every two weeks, during the season, from May to Oct.

We will return their money to those who will not like our queens after a two month's trial, provided they send the queen back with an affidavit establishing that it is the same queen.

Address, CH. DADANT & SON,
Hamilton, Hancock Co., Ill.

I SHOULD be glad to sell good yellow queens for 80 cents; tested, $2,50.

9 LLOYD Z. JONES, Galva, Ills.

Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

## $1.00 Queens.

*Names inserted in this department the first time without charge. After, 10c. each insrtion, or $1.00 per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions; No guarantee is to be assumed of purity, safe delivery or any thing of the kind, only that the Queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best Queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested Queens, furnished on application to any of the parties. Names with *, use an Imported Queen mother. If wanted by mail, send 10c. extra.

| | |
|---|---|
| G. W. Dean, River Styx, Medina Co., Ohio. | |
| *J. Oatman & Co., Dundee, Ills. | 312 |
| *Dr. . P. H. Brown, Augusta, Georgia. | 9tf |
| *E. W. Hale, Wirt C. H., West Va. | 6-6 |
| *J.M.C. Taylor, Lewiston, Fred. Co., Md. | 1tf |
| *J. H. Nellis & Bro., Canajoharie, N. Y. | 5-10 |
| Miss A. Davis, Holt, Ingham Co., Mich. | 5-12 |
| *Aaron I. Weidner, Bigler, Adams Co., Pa. | 6-12 |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| *P. H. Gibbs, Guelph, Ontario, Canada. | |
| *Staples, Andrews & Vaughan, Columbia, Tenn. | 7-11 |
| *W. P. Irish, New Portage, O. | 7-12 |
| I. W. Cramer, Oneida, Knox Co., Ills. | 9-10 |

## Bees for Sale.

We, whose names appear below, agree to furnish bees as follows: A two frame nucleus, full of brood and bees, with tested queen, for $6,00, or the same with $1,00 queen for 4,00. Where five are ordered at one time, $1,00 less on each nucleus; * names, use only imported mothers.

| | |
|---|---|
| *E. C. Blakeslee, Medina, Ohio. | 6-tf |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| *J. M. C. Taylor, Lewiston, Fred. Co., Md. | 7-1 |
| *Aaron I. Weidner, Bigler, Adams Co., Pa. | 7-10 |
| *Wm. J. Andrews, Columbia, Tennessee. | 8tf |

## Hive Manufacturers.

| | |
|---|---|
| A. I. Root, Medina, Ohio. | |
| J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| M. S. West, Pontiac, Mich. | 6-5 |

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**THE BEE-KEEPERS' MAGAZINE,** an illustrated monthly journal of 32 octavo pages, devoted exclusively to Bee-Culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper and experienced Bee-Keepers in AMERICA and EUROPE. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms $1.50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine 1 year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with *prize* essay of Mrs. Tupper, Queen Rearing by M. Quinby, instruction for beginners, etc., sent *free* with the MAGAZINE, on trial, 4 months for 50 cents. Agents wanted—Cash commission and permanent employment. Address,

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|---|---|
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4-10 Address JAMES LA BARE, Cincinnati, O.

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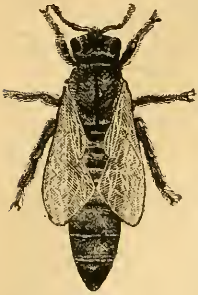

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Full colonies in Langstroth Hives................ $12,50

☞Safe arrival of *all queens* guaranteed.☜

Purchasers must assume all risk in the transportation of full colonies.

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No Black Bees in our Vicinity.

Queens bred from choice Imported or home bred mothers, warranted pure, each $1,00. The same queens, *warranted purely fertilized*, each $1'50, or one dozen for $15,00.

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Ready to ship by June 20th. Price of tested queens $3,00; warranted $2,00. Nuclei with tested queen—two Langstroth frames with plenty of brood and, $6,00 each or $25,00 for five. Full swarms with warranted queens in Langstroth hives $12,00, or ten for $100,00.
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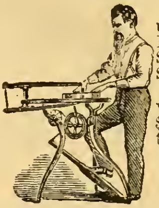

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OF PURE ITALIAN BEES FOR

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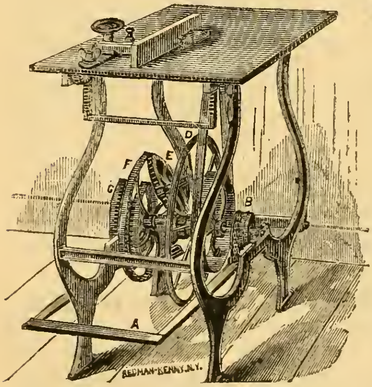
9-10 ALBERT POTTER, Eureka, Wisconsin.



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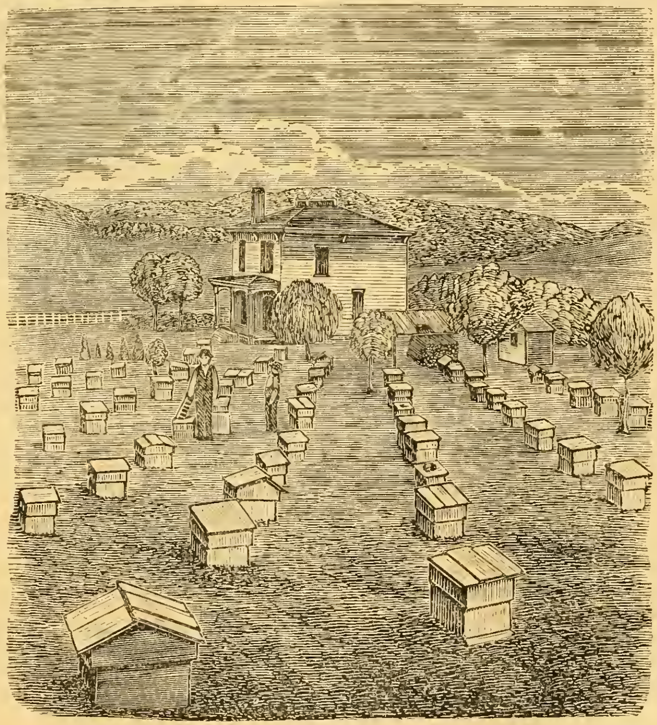
As we cannot take the space in future numbers to go over the same ground again, and Volume One contains the entire Fundamental Principles and

**Ground Work for Starting an Apiary.**

# GLEANINGS IN BEE CULTURE

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

**Vol. IV** **October, 1876.** **No. 10**



Doolittle's Apiary.

We regret that our engraver has not paid our readers and Mr. Doolittle a little better compliment by a more careful following of the photograph sent us, but we presume we shall have to atone for it by "trying to do better next time," as the thief said when he got caught. Friend D. has just moved into his new house, and has as yet had no time to get trees and grape vines growing for shade, which we suppose is the reason he has his hives protected by such irregular looking boards and covers. His great crops of basswood honey, we are informed come from those trees beyond the house. Very likely the trees among the hives are basswood too, but our artist has made them look more like splint brooms stuck in the ground. Friend D. has a pretty residence truly, and we trust his crops of honey may continue to grow better and better, that his bees may fill the sections and build their own comb faster then we common folks can coax them along with all modern appliances, and that our artist may improve enough to show us his "bee-yard" as it is, the next time we try to give our readers a "squint" over our shoulder.

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We are growing a *little*, any way; 1787 subscribers to-day, Sept., 28th. 'Spect it is all we deserve.

## IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required.*

| | |
|---|---|
| Bees, full colony amply provided for winter, in our new two story Simplicity hive (chaff cushions), tested queen from imported mother, safe delivery guaranteed | $15,00 |
| The same in old style L. hive with portico, etc | 12,00 |
| The same with hybrid queen | 10,00 |
| The same not provisioned for winter | 7,00 |

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

| | | |
|---|---|---|
| 0 | Binder, Emerson's, for GLEANINGS | 50, 60, 75 |
| 4 | Boxes, section with comb guides | 02 |
| | Balances, Spring, for suspended hive | 8,00 |
| 10 | Blocks, Iron, for frame making | 15 |
| | Barrels for Honey | $2,50 to $4,00 |
| | Buzz-saw, foot-power, *complete*, circular with cuts free on application. Two saws and two guages included. | 35.00 |
| 0 | Buzz-saws, extra, 6 inch, 1.50; 7 inch, 1,75; 8 inch | 2,00 |
| | Comb Foundation Machines complete | $125,00 |
| 20 | Candy for bees, can be fed at any season. Per lb | 15 |
| 20 | Corners, Metal, per hundred | 1,00 |
| 25 | " " Top only | 1,25 |
| 20 | " " Bottom, per 100 | 75 |

On 1000 or more a discount of 10 per cent will be made, and on 10,000, 25 per cent. The latter will be given to those who advertise metal cornered frames.

Chaff cushions for wintering, and for covering honey boxes in summer. These are made 16x20x6, but can easily be pressed into a much smaller cap or upper story. The chaff used is clean, soft and free from dust.

| | | |
|---|---|---|
| 60 | Each | 30 |
| 09 | The same all ready for the chaff | 15 |

As we purchase our cloth at wholesale, this is perhaps as cheap as you can make them.

| | | |
|---|---|---|
| | Combs, empty worker in metal cornered L. frames | 50 |
| 10 | Clasps, for transferring, package of 100 | 25 |
| 0 | Cards, Queen Registering, per doz | 10 |
| 2 | Cages, " | 10 |
| 18 | Case with Separator to hold 3 Section frames. | 06 |
| | Case of 10 of the above, 30 Section frames in all, | 1,25 |
| 2 | Cheese Cloth, for strainers, per yard | 10 |
| 12 | Duck for feeding and for covering the frames—bees do not bite it—per yd. (29 inches wide) | 20 |
| | Extractors | $8,50 to 10,00 |
| | " Inside and Gearing | 5 00 |
| | " Wax | 3,50 |
| 4 | Frames with Metal Corners | 06 |
| 5 | " Sample Rabbet and Clasps | 10 |
| 10 | " Closed end Quinby, nailed | 05 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | " present " | 1,00 |
| 40 | Gearing for Extractor | 1,50 |
| 20 | Gates, Honey, for Extractors | 50 |

### THE SIMPLICITY HIVE.

| | |
|---|---|
| One story Langs'h without frames or bottom | $1,00 |
| The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express | 2,25 |

The above is the hive we use and recommend in preference to everything else, and it contains every thing needed for all purposes except at the surplus season. If you decide to use the extractor you want an extra body and 10 frames—$1,25—making complete two story hive—$3,50—or, you can have 60 section boxes (two tiers of 30 each) in place of the 10 frames, at the same price. If you prefer the old style of glass boxes, we can fit the upper story with 18 having glass on four sides at 12½ cents each; this will make the hive and all cost $5,00.

| | |
|---|---|
| One story Q. hive without bottom or frames | 84 |
| The same with bottom, 10 *nailed* frames, division board and quilt, complete except surplus receptacles | $2.00 |
| The same with two story, 20 frames | 3,00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

A one story complete for 13 frames of either the Standard, American, or Gallup hives, will cost $2,50, and they can also be used with any of the surplus arrangements mentioned; also, as they are all deeper than the Langstroth frame, a single story can be used with fewer frames, and sections or boxes at the side of the frames. As an illustration; we can take four frames out of the one story hives above, and put in their place 18 section boxes.

25 | Honey, Clover, per lb, 16c., Basswood, 15c. By the barrel 2c. less and waxed and painted barrel included.

Honey in section frames or fancy glass boxes, 25c. gross.

| | | |
|---|---|---|
| 0 | Knives, Honey | 1,00 |
| 0 | Labels, Honey per 1000 | 3,25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp Nursery | 5,00 |
| 0 | Larvæ, for queen rearing, from June to Sept. | 25 |
| 15 | Microscope, Compound | 3,00 |
| 0 | Prepared objects for above, such as bee's wing, sting, eye, foot etc., each | 25 |
| 0 | Medley of Bee-Keepers' Photo's. (150 Photo's) | 1,00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | " " Double lens | 1,00 |
| 0 | Photo of House Apiary | 25 |
| 06 | Quilts | 25 |
| 2 | Rabbets, Metal per foot | 02 |
| 3 | Sheets of duck to keep the bees from soiling or eating the cushions | 10 |
| 0 | Scissors, for clipping queen's wings | 40 |
| 15 | Seed, Alsike Clover, *raised near us*, per lb. | 35 |
| 20 | " Summer Rape. Sow in June and July | 15 |
| 0 | " Chinese Mustard, per oz | 25 |
| 10 | Quinby Smoker | 1,50 |
| 2 | Tacks, Galvanized | 10 |
| 3 | Thermometers | 40 |
| 1¼ | Universal Section Boxes in the flat. each | 01 |
| | Universal case of 30 boxes, just right for U. hives or any L. hive, and can be fitted, to *any* hive | 75 |
| 0 | Vails, Bee, with face of Brussels net, (silk) | 75 |
| 0 | The same, all of tarletan (almost as good) | 50 |
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| 3 | " " " Queen Cages | 15 |

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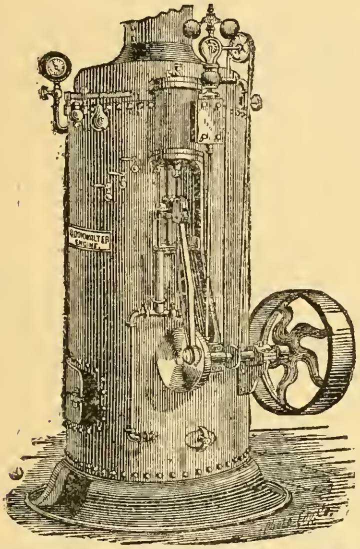

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| 5 to 10 four frame " | each | 4.50 |
| Warranted queens " | | 1,50 |
| " " | per doz. | 15,00 |
| Tested " | each | 2,50 |

Safe arrival guaranteed on stocks and queens. Satisfaction guaranteed.

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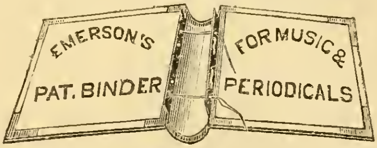

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# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
*Publisher and Proprietor,*
**Medina, O.**

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Vol. IV. OCTOBER 1, 1876. No. 10.

## THE "PAPERS" AND THEIR IDEAS OF BEE MATTERS.

WE are in receipt of a very pleasant letter from Hon. Henry Bligh, Vicar of Abingdon, England, and among other things he mentions and encloses some newspaper extracts regarding the stinging of a donkey which was heedlessly tied in front of one of his hives. Some "onpleasantness" occurred between his donkeyship and the bees and as he was securely tethered, the bees stung him to death. The item was taken up by the papers, and they unfortunately decided that the whole trouble was the result of the modern system of bee-culture, and that had the bees not been made furious by being deprived of their "honest earnings," all would have been "lovely." Their reasoning seems to have been as thoughtless as that of Prof. Riley, when he said the depredations on the fruit were the result of the bees getting "hungry" because their owners had neglected to feed them enough. A bee-keeper of only moderate experience knows that it is the powerful stocks only, that make raids upon other hives, the groceries, or orchards; and a colony which has reached the point where they are without food, is absolutely unable to make even a defensive attack, let alone the offensive. We are glad to note that the Abingdon Herald promptly corrected the error, and apologized, when informed that the hive was well provisioned and had a crop of surplus on the top, that had not been disturbed during the season.

Now we wish to be permitted to say a word to the Agricultural and other papers which are in the habit of having a bee department. It is very unsafe for an Editor who is not a bee-keeper to clip items indiscriminately from other papers. If some practical man near by can be induced to furnish the items, they will be fresh and up to the times, and almost always practical and reliable. About two years ago we spoke of an item going the rounds of the whole Agricultural press, and then it had to go through the miscellaneous papers, the Editors doubtless thinking it must be valuable, just because it was to be seen everywhere.

We wondered then why it were not possible that something of real merit or value could not have a similar run. Now, the *Prairie Farmer* has just brought out the same thing *again*, word for word, and as they have been giving us some really valuable items of late, we cannot think what *does* possess them. The very title of the item, *Pruning of broods*, is unmeaning jargon, and the matter itself might be supposed to have been written before the time of Huber. Should any one follow its teachings, they would do their bees a positive injury.

We fear that Editors are sometimes careless about the matter that is used, and that many times they either do not take the trouble to examine, or have not the means of determining whether items belonging to these special pursuits are fresh items of value and interest, or only floating trash without value or sense.

If we may take the liberty once more, we would suggest that the *Rural New Yorker* has wasted nearly a column of their valuable paper, in criticising one of J. W. Shearer's articles in the *Magazine.* The worst feature of it is, that the tone is one of *unkind* criticism, something we feel is certainly not needed toward one so pleasant and honest as our friend the Rev. Mr. Shearer. He has written much that is very valuable, and if he really is at fault in the harmless and unimportant points mentioned, can we not let it pass with a gentle reminder or mention of his error? Unkind words between Editors will surely injure most those who utter them, and the papers that give place to them. Tell us of our faults to be sure, but please do it in a neighborly way. Words that are spoken, are easily recalled, but those that appear in print, go far beyond our reach.

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"Father does a swarm of bees gather 50 lbs. of honey in a day?"

"I think not my son."

"Well, the *Rural New Yorker* says they often do, and that they will on a fair calculation make $25,00 worth in 20 days. Can we not believe what we read in the papers?"

In the *Rural* for Sept. 9th, the statement is made, and we are also informed that the 50 lbs. comes in the long days of August when the white and alsike clover are in bloom. Although the article is copied, (and has already commenced going the rounds) the editor makes no note, comment or caution; and can we blame good, sound sensible farmers, for saying a great part of our agricultural papers are the work of men who do not really know what they are talking about? Has our friend Shearer, ever uttered any thing so——mischievous?

## OUR OWN APIARY.

A FRIEND suggests that if we would visit the Centennial we would see much machinery, and get many new ideas. Now the greatest trouble with us, is that we have *too much* machinery, and too many new ideas already. If we can by staying at home, take better care of, and develop those we have, we think it will be much better; and just at present the flow of honey this 1st day of Sept., is to us more interesting than perhaps anything else, and our apiary contains more wonderful things, things to be studied, and worked out, and things we verily believe to be more profitable to us, than any work of man, to be found on the face of the earth.

We have tried to follow up the idea of giving bees bits of comb in front of their hives, and find that if the distance is so great they are compelled to take wing, they pack the comb on their pollen baskets; if so near the hive that they can carry it on foot, they bite off bits as before, and then stick them together in a lump, holding this lump as it appears to us, under the chin, with the aid of the tongue.. A bee will be walking about with a huge lump of this wax, without your being able to detect anything of the kind, unless it happen to need readjusting, which the bee does dextrously with the fore foot. With this lump of wax, when the bee has about as much as it can carry, it starts into the hive hurriedly, and goes directly to where comb building is in progress, or may be to where cracks and crevices are being stopped by propolis, for these bits of wax seem to be used for either purpose indiscriminately. When packing it in their pollen baskets, they use a kind of sleight of hand movement, that is quite puzzling until one has studied it out. A bit of wax is pulled from the comb as before, and is then stuck on the side of one of the middle feet from which it is "slapped" on to the rest in the pollen basket with a movement so quick that the eye is unable to follow it, and it is only by observing the finishing pats of this limb, that we are able to divine how the wax got to the pollen basket at all.

The dark hybrids and black bees are gathering only dark buckwheat honey, with rich cream colored combs, the first we ever saw; while the Italians are storing clover honey in white comb but little different from that of June. This is another very great advantage in having Italians. We really believe the house apiary has especial advantages for comb honey, and that the 3 or four colonies that were strong, have certainly averaged better than those outside. One has given over 100 lbs, and another very nearly as much. One very important fact stands out strong and clear; viz, that more honey will be stored while the boxes are well protected from the changes of the weather. The central row of sections is always filled first, and of these the very middle ones; but in the house apiary, we find the row next the wall, capped and ready to come off, full as soon as the central ones. If the honey boxes are packed with the chaff pillows just as we pack the hive in wintering, *perhaps* it would add greatly to the yield of honey; and on this point we are now making some experiments. Although the hoop hives have given very fair yields of honey, we have repeatedly found the side next the hoops, of the outside comb, empty, when all the rest were well filled.

*5th*—We have just paid Mr. Blakeslee a visit, and find him with over a ton of comb honey in the Universal sections, besides having sold considerable. He has now 98 colonies, and has sold bees and honey enough, with the honey on hand, to amount to $1000.00. His bees are in such excellent order and so well provisioned, that we should call them worth safely $1000.00 more. We estimated that the hives now contain as much as 5000 lbs. of honey. Although he has had no fall surplus, he has taken from a single colony, 200 lbs. of comb honey. He considers the plan of feeding extracted honey, a complete success, having fed 2 barrels to 2 colonies after his honey season was over, which they put in section boxes in nice shape. He cannot tell exactly the amount of extracted required to give 100 lbs. of comb honey, but thinks perhaps from 125, to 150 if fdn. is used. One more item; the colony that gave 200 lbs. of clover honey, he says was kept from swarming by the use of the Quinby smoker; when they commenced to cluster on the outside of the hive, they were driven in by smoke, and this was repeated until they stayed inside and commenced work on the fdn. We can readily credit this for we had a large natural swarm, that persisted in clustering out until we drove them in several times with smoke, when they went to work and kept at it. Mr. B. says if he can have just one half as much ready cash for extracted honey, he will use the extractor; otherwise he shall produce comb honey.

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I am a new beginner in the bee business and don't see how I could get on without GLEANINGS. I started June, '75, with two colonies; have increased them by natural swarming to 29 colonies all in good working order. W. H. H. DENHAM.

Lamar, Barton Co., Mo., Aug. 26th, '76.

The statement above we were at first inclined to think pretty large but a little reflection shows it to be quite probable. For instance our Quinby hive (packed with chaff,) has given us four swarms, and all are now good strong colonies. If the chaff packing should work as well next winter, why may not the 5 increase to 25? This would be 25 from one, in two seasons. But this is not all; the first swarm stored full 50 lbs. in empty combs, and since these were removed has give us about 25 lbs. in sections. The second swarm has made about 25 lbs. of comb honey, and the third about 10; all four as well as the old colony, have their hive crammed with stores, and the original stock has stored about 100 lbs. of honey in the Quinby boxes. Think of it! Five colonies amply provisioned for winter, and 185 lbs. comb honey, from one in the spring.

It will be remembered that we said in June that yellow fdn. made white comb honey; well, we had begun in August to use the yellow quite extensively, until on looking into a hive toward the latter part of the month, we found yellow comb honey, not only the sides of the cells, but the caps also, just exactly as as our friend Perrine says in his advertisement. "Well!" said we, "That won't do at all," so we took out the filled cases and put in some filled with white fdn. What do you think? They made it yellow also, and then we knew it was the source from which they gathered the honey. These bees are at work in the morning, long before the rest, and they come home covered with yellow dust. Not only have they made the wax yellow, but the wood of which the section boxes are composed is stained as if with yellow dandelions.

*6th*—Our neighbor Dean makes his section boxes of thin stuff nailed together, and for comb guides he simply saws through the top bar and perhaps a half inch in depth into the end bars, and drops into the slit, a piece of plain sheet wax; his section honey is beautiful. He has from about 50 stocks, about 500 lbs. of the comb honey, and about 2500 extracted. Has sold the greater part of his crop at about 12½, and 20 cents, at wholesale. He has secured considerable from the red clover crop of August. After making a call at Mr. Dean's, we all paid a visit to Mr. Rice of Seville. He has a house apiary built for 68 colonies, and has really succeeded this summer in making it work with the extractor. His plan has been to shake the bees on the floor for the lower tier of hives, and on the top of the frames for the upper tier. For the latter he stands on a chair. He is certain he can extract the honey from double the number of colonies in a day, but is equally sure that the bees sting twice as badly as they do when outside; says he has to use much more smoke. His wife who assisted, says this is hardly fair, for the time when they behaved so badly, was toward the close of the season, and that the first time extracting, they seemed as gentle and pleasant about it as one could wish. He uses the Standard frame in his house, and as an illustration of how differently folks *will* work, we will mention that he uses section frames such that four will just slip inside of one Standard frame. These sections are nailed, and are much like Mr. Dean's, but the top, bottom and sides, are all alike in width—about 1¼ inches. Frames filled with these sections, placed next the glass division boards, make a very pretty sight indeed. Mr Rice has now something like 110 colonies, and has taken about 5000 lbs. of extracted, and about 800 in the section frames. The crop has been nearly all sold in his own neighborhood, or at least in the neighboring towns. We are both going to try hard to make the house apiary a success in wintering, and if we do, it will be quite a success after all. He agrees with us, that the bees store honey during cool nights, to better advantage than they do out doors. If you keep a sharp look out, you may get a view of this new house apiary. The entrances to his hives are like our own, two inch auger holes, and we believe he finds them quite satisfactory.

*14th*—In recording the following experiments to determine the precise value of a chaff covering, we hope our readers will not think we are recommending them to follow us, for we are only giving the results as we did in regard to the green house, and house apiary, for what they are worth. We have now, working successfully, a hive with 10 hexagonal frames such as are given on the cover of our last No., and we find no fault with it except the difficulty of handling the frames. In fact we are so accustomed to get out any comb by simply raising the light cover and quilt and picking it up, that we fear we shall never get reconciled to anything but the metal corners. When we get home before dinner is ready, we are in the habit of opening a hive and going to work, and the very minute that Blue Eyes shouts, we wish to be able to put every thing in place, and go along. Do your women folks and children like to wait for papa when every thing is all ready and on the table? Well if we should have a Quinby hive open when the summons came, the dinner would be all cold before it could be "fixed up" without killing any bees. This little hive—two of the frames will scarcely make a square foot of surface—was peopled with the brood and bees of a very weak colony, that in an ordinary L hive, could scarcely send to the fields enough bees to keep them in food. Well, at the time of transferring, we put fdn. in every other frame, but as a very cold storm came on, we decided next morning to put the brood all close together. As we approached the hive, we found the bees at the entrance, as with our heavy colonies; and on removing the quilts we found them as warm as could be desired down in their bed of chaff, and to our astonishment the cells were raised into fair comb on every one of the five sheets. Since then this little colony has sent out a working force much like the heavy stocks. Of course they are to be wintered just as they are. If they increase so much this fall, as to be crowded outside, they will doubtless manage to crowd in before very cool weather. Without doubt the six sided—nearly round— frame has much to do with the success of this, but we cannot see how it can be adopted for a working hive, without much inconvenience.

We to-day paid a visit to several of our neighbors, and found Mr. Shane busy making crates or cases for shipping comb honey in L. frames. These cases are made of lumber that he purchased for $11.00 per M. It is planed down to about ¾ and then boxes made to hold 40 or 50 combs just as they hang in the hive, with a pair of handles at each end to carry them by. These handles are simply a prolongation of the sides of the box, whittled round and smooth, so as to be easy for lifting so great a weight—2 to 400 lbs. To keep the combs apart, the rabbets along the sides are notched just right to admit the projecting ends of the top bar, and a three cornered strip notched in a similar way, is nailed along the bottom. When the cover is screwed on, every frame is secure in its place. He receives the same price for comb honey put up in this way, as for that in the sections—20c.—but receives the frames and cases back. Their L. frames weigh just ¼ lbs. each. Our metal cornered frames weigh only 3 oz., and contain about 20 square inches more comb surface inside, although the outside dimensions are the same. If we could be sure of this price for comb honey in the frames, perhaps it would be the most economical way in which it could be produced for both consumer and producer.

Our friends Shaw & Son, and Mr. Daniels and his neighbors, have taken all their surplus with the extractor. Mr. Daniels is situated near the swamp we have before spoken of, and it has now been pretty well demonstrated that it pays to move the bees for several miles around, into this vicinity in the fall; and we found five different apiaries located in Mr. Daniels' door yard. Mr. D. has from the stock reported on page 194, extracted since, of fall honey, 55 lbs, making 341 in all, besides making one new colony from it. We examined the stock, and did not find it as populous as many of our own now are. All agreed in calling the double width hives less convenient than the two story for the extractor; and that there was no particular advantage in them. If we are not mistaken, all agreed that it would be about, or full as well, to extract only from the upper stories. The swamp honey is from the spanish needle, and although the strong flavor is very pleasant to many, it does not please generally as well as the clover and linden. Our friends are now retailing it at 10c. A brother of Mr. Daniels, has succeeded in making three new colonies, and 167 lbs. of honey from one colony of blacks; this will make a very good item for Mr. Heddon, with the exception of the movable frames and the extractor which he used to do it.

It seems pretty evident that bees do, occasionally at least, go as much as three or four miles, for Mr. Shaw finds bees coming home from the swamp—recognized on account of the peculiar yellow dust, just as we know when they commence on the touch-me-not by the white spot on their backs, etc.—laden, and going to the spot where their hive stood before removal. Now the swamp was estimated at not less than four miles, and the bees could not have gone from there home, had they not been in the habit of going there before removal. The bees at home do go to the swamp, but the amount of honey gathered, is not nearly equal to that gathered by those within ½ mile of the flowers. Mr. Shaw makes all his hives with a view of taking them to the swamp in the fall, and he has also a wagon constructed for the purpose.

We have purchased about 140 bushels of chaff at about 5c. per bushel. A part of it has been run through a fanning mill at an expense of about 2c. more, and this is by far the nicest, as it is freed from all dust and heavy particles.

*18th*—Our house apiary is supplied with chaff cushions, and we are rejoicing to find them answering the purpose so well. These cushions are made of two pieces of indian head muslin 17x21 joined by a band 6 inches wide, so that we have a box of cloth as it were; we prefer to use the band, as it leaves the ends and sides square, making a close fit to the sides of the hive, or to each other when placed in the house apiary. They were all put on in a very few minutes, and any hive can be readily opened by simply raising the cushion that covers it. The night they were put on, the temperature outside was down to 40°, in the house 60°, and a thermometer put under one of the quilts for a few minutes, showed 80°. If you slide your hand under the quilts that cover even the weak colonies, it seems like putting it into a warm bed. Now all this animal heat was passing off continually through the one thickness of cloth, last spring during the spring dwindling, and we fear this has been the case with bees put into cellars and bee-houses to a considerable extent. Before putting on the cushions a pretty strong hum was heard during cool nights, but now we hear not even a "whisper." We shall see.

*19th*—It is a very pleasant piece of fiction that bees have a language of their own, and can communicate to their fellows where plunder is to be had, etc., but we opine their vocabulary must at least be rather limited. Yesterday, the door of the honey house by some means got open, and at noon we found them doing a "land office business" on our sections of comb honey. The door was closed until they were all on the glass, and then opened just long enough to let them out. As a fresh army rushed in at every opening, it was some time before all were out, and as each lot rushed laden into the hives, a swarm of workers came out and made straight for the door way. At night they had given up buzzing around the door, and a feeder was placed in front of a hive which we watched until a few bees were ready to go inside with a load of honey; almost as soon as they were out of sight, a lot came tumbling out, and went straight to the door of the honey house. More kept coming, and we finally were convinced that they only know when a bee comes in laden, that he has obtained his load *somewhere*, and that the only way they have of finding it, is to scatter about in every direction until they find it.

## WINTERING BOXES. INTRODUCING QUEENS.

As to comb fdn. I can not say enough in its praise, for it works to a charm where it is properly used. I got some from Perrine and first filled some frames too full for such warm weather, 85° to 96°, and it stretched so as to double up at the bottom. It also spread laterally and waved, but as I tried only a few this way it made but little difference. I then filled the frames leaving about one inch each side and from one to five or six inches at the bottom and got some splendid combs. I put some in hives at 8 o'clock P. M., looked at them at 8 the next morning and found the cells about ¼ inch deep and in 12 hours more eggs and honey in them. Perrine's fdn. was very thin. We got 37 sheets 12x19 inches for 8 lbs. and we got 38 sheets from you in 12 lbs.; so you see Perrine's gives more surface for same number of lbs., but I would have no choice between the two as both work well. Perhaps yours would work best in very hot weather and strong stocks. At all events it is a great help, Heddon to the contrary. By the way, 2 plus 2 make 4, and I think friend H. can prove his theory as to humbug fdn., box hives, and black bees, just about as easily as he can prove that 2 plus 2 equals 8.

Now I will tell you my plan of wintering (don't tell any one, as I intend to get it patented *a la* Gillespie). I am indebted to Mr. A. Simmons of Fairfield, Iowa, for it. I have been at his place several times during the past five years, and while he lost a great many bees by other modes of wintering, he has never lost one by this. It is as follows:

Make a box or outside hive with good bottom to it, large enough to take the hive in and leave 5 or 6 inches space all around and on the top; make a good tight cover, and let the cap or roof project over 1½ inches. Now bore one or two holes through side or rim piece of cap just under the projection and tack wire cloth on inside. This will give ventilation over the top of the hive. Make an entrance to the outside box to correspond with the one in the hive, and a "chute" or passage way from one to the other. Also make a slide to shut up the entrance in outside box, which should be kept closed to ¼ inch during winter.

Now pack all around and on top of the hive with dry leaves, fine straw or chaff, (the last I have not tried, but think it would be good) and you have your swarm in a snug repository. Use carpets or quilts on top of hive with packing directly on it, and I lay two strips a few inches long under the carpet on top of frames to give a winter passage. I make the sides of the outside box just the height of my hive without the cap; the top in two parts, the rim 6 inches, and the roof, as you could not pack on top if it were all in one. This arrangement secures or rather retains the heat of the swarm, and still lets the moisture escape; also, if it gets warm enough at any time during winter they can fly without being moved or disturbed, which I believe kills off many stocks.

Do your packing in October while it is warm, or even earlier, and don't touch them until spring. Of course stocks must have stores enough and a good queen, etc., or they will die anywhere.

I do not give this as entirely new, but it works so well that I believe it will nearly always save them. My advice is to get your bees in good shape for winter while the weather is warm and put them up in some way, so they need not be handled or disturbed during the winter. These boxes with packing removed, may stand all summer and be a protection from heat, and then you do not want any house apiary, grape vine, or any other shade and the hive may be made of rough lumber and unpainted, with no cap. Some might object to the expense, but a few stocks saved will pay for a great many boxes. I can make them here with two coats of paint for $2,00, and they will last a long time. I think I have made this sufficiently plain to be understood; and now for introducing queens.

It seems to me there should be no trouble in introducing queens at any time during the season, whether honey is coming in or not. I believe that most losses are caused by releasing queens too soon. I have introduced a great many and never have lost one. I used to let the queen loose after being caged on top or in the stock, in 2 or 3 days (of course old queen must be taken out first) disturbing them as little as possible. But four years ago I released one after 3 days and the bees balled the queen in two seconds. I took her from the ball, caged her again leaving her 3 days more, then daubed her with honey and she was well received; since which time I always leave a queen caged 3 days, then drop her in a cup of honey and cover her all over with it, dip her up with a tea spoon and drop her among the bees between the frames, but am sure not to disturb the stock for 3 or 4 days more.

I do not think it singular that petroleum will kill a queen, as it will kill even the Colorado potato beetle. We have had four cases of two queens in one hive here this summer; one of them had two laying queens and has them still. I have proved that young queens destroy queen cells, and also that young queens raised in August or September will keep up brood rearing much later in the fall than older ones. I have but two queens in my yard but what were raised this year and they are only a year old.

I wintered all my bees last season in the boxes described, successfully, but sold two in April, keeping 9 to go on with. I have now 32 besides some nuclei for raising queens. I have sold 3 nuclei which are now good strong stocks, have extracted 400 lbs. and taken 35 lbs. comb in small frames, besides which I have sold quite a batch of queens.

Be on hand another spring with your fdn. for we will be after you hot and heavy. Many wishes for your success. J. W. CRAMER.

Oneida, Illinois, Sept. 5th, 1876.

Boxes made to hold chaff as above, we believe will be about the best arrangement we can make, and as our friend says, something very cheap will do for the inside hive, if they are to remain so during warm weather. We would however always have the inside of the hive smoothly plained, for we wish to have them as free from propolis and bits of comb, as possible. With suspended combs, we see no good reason why the chaff, around the walls at least, may not remain permanently; above the frames in the space occupied with the surplus sections, we would use a chaff cushion, such as is advertised in this No. If it will pay to thus protect the section boxes, we do not see but that the outer box might be tall enough to admit two stories, and then we should have only to put the cushions in the upper story to prepare them for winter. Do we need chaff under the bottom of the hive? Who can tell? For the closed end Quinby hive, we would suggest sides all movable, and five cushions; the latter all to give place to surplus sections in the summer season. We have several times had queens that would not be accepted in two days, but would be receivin two or three days more. While young queens lay prodigiously in fall, we frequently have queens 2 years old that outstrip them the next season; so we would not be too hasty in killing off old and tried ones.

## THE OLD PLAN AND THE NEW. FEEDING, ETC.

DEAR FRIEND: GLEANINGS came to hand fuller than usual of matter interesting to bee-keepers.

When feeding large colonies in July and August to encourage the preservation and and production of drones, I used old discarded fruit cans, putting in them two or three small pieces of corn cob, and one long one. These were placed in the portico about dark, removed next A. M. and set on the ground near the hives, so that they could be readily refilled and replaced in the evening. No robbing, no bees lost in the food. After two or three feedings the bees were as conscious of the time for feeding as our barnyard stock, parading impatiently over the floor of the portico, and finally swarming upon the can as soon as we had left it. If two cobs are tied together, one to be in the can, and the other outside so as to rest on the portico, a strong stock will empty the can in quite cool weather.

That was a very interesting letter of Dr. Peters. By all means let the old and new systems be tried by *experts*. As a general rule the old system has had but a poor chance being mostly in the hands of the ignorant or careless. I presume that the results of such a trial will only confirm the conclusions of such eminent bee men as the late Mr. Quinby, Judge Fishback of Batavia, Ohio, and Dr. J. P. Kirtland. These men after large experience with box hives, abandon them for the movable frames. I have no doubt that many are "dabbling" with frames, who would be much better off if they used the old gum, and the sulphur pit.

The fact cannot be questioned, that for some reason the race of bee-keepers who make bee-keeping profitable without movable frames is fast dying out. Is there among them one who can compare, for success, with Captain Hetherington, or the late Adam Grimm?

Let me call the attention of your readers to a single point, the rapidity with which after the most disastrous winters an apiary is re-established by those who have control of the combs, while similar losses with the box hives are irreparable.

If your friend Dr. Peters, (for I must call any man who writes with such an evident desire to get at the truth, the friend of all true bee-keepers,) had kept bees in regions where, sometimes for weeks together the thermometer is not only below freezing but sometimes daily much below zero, he would attach much more importance to ventilation. Let such hives be kept close above and only the ordinary passage for bees open below, and they will sometimes smother the bees, by the moisture falling from the bees, and freezing so as to seal up the entrance, and they often become so filled with ice that when the weather changes the bees and combs are fairly drenched, and if it turns suddenly cold before they dry out, the bees perish. I have seen them under such circumstances frozen into quite solid masses of bees and ice!

As friend Heddon has used movable frames and now returns to the old box, with supers for surplus, his reports will be looked for with all the greater interest. If all our fancied improvements are only "fuss and feathers," or at most beneficial to scientific amateurs, the sooner we know it the better, even if we should be as much surprised as any traveller on a first-class rail road car, would be if called to give it up for a comfortable seat in an old fashioned stage coach. Yours very truly,

L. L. Langstroth.

Oxford, Ohio, Sept. 8th, 1876.

## NOTES FROM OUR EXCHANGES.

OUR Bee Journals were for the first time, if we are correct, all on hand within three days of the first of the month; and we think the people will be much better pleased if this can be made the rule, instead of the exception.

### AMERICAN BEE JOURNAL.

Chicago, Aug. 18, 1876.—Ed. A. B. J. In answer to numerous letters of enquiry, and for the general information of bee-keepers, I will say that of all methods tried by me to fasten comb fdn. in frames, I prefer to do so with wax. I take a board ⅜ inch thick, the size of inside of frame, and fasten it in flush with one side of frame, and then put the fdn. in the frame laying on this board, fitting the underside of top bar and about ⅛ inch from either end piece, and say ½ or ¾ inch from the bottom bar. Pure bees wax will stretch but a trifle; that mixed with paraffine stretched so as to be worthless in every experiment I have tried. I would not advise heavy swarms to be put into hives filled only with fdn., as this weight might pull down even pure bees wax, but know that if alternate combs and fdn. be put in, even for the strongest swarms, they will stand, as the bulk of the bees will go on the combs first and a few bees will first fasten the fdn. more securely, and then more bees go to work in extending out the cells. I would advise taking out outside frames which are generally filled with honey and making room for 2 or 3 frames with fdn. in the middle alternately, as before mentioned, in the midst of the fullest brood frames. I have had about 125 thus built this season. Most queens prefer new comb to lay in but I had one that seemed to prefer old comb. I have 19 stocks in ten 7x18 inch frame hives, near the city limits; increased from 10; but little surplus. I hope we will have a full and candid expression from all who have used fdn. C. O. Perrine.

As nearly all our fdn. has been built out between two old combs, it may account for our succeeding so well. In one case we filled an upper story entirely, but their progress was much slower, although they built very nice combs by finishing the cells on the lower portions first.

### BEE-KEEPERS' MAGAZINE.

J. W. Shearer says of buckwheat:

> It should be sown in May and June if intended to fill up the summer gap in the honey harvest. The main crop is generally sown in July. The old black is a better honey plant than the silver hulled or the gray. The old black should be selected if possible.

This exactly agrees with our experience of the present season, and if we have made no mistake, three acres sown in June, have given us more than 200 lbs. of comb honey, besides the large amount that must have gone into the brood apartments. We shall next season try to furnish seed from the piece that has yielded so bountifully to our black and hybrid stocks.

### BEE WORLD.

We would suggest to friend Argo and others that it is quite a frequent thing to find two laying queens in a hive during the extracting season. So many cases of the kind have we found, that we now invariably look for two queens when we find an unusual amount of brood.

Our friend Annie it seems feeds her bees on the alighting boards too, so that is nothing new. She feeds them on brown sugar; we hardly think our bees would deign to notice brown sugar this season, but from experiments made last season, we have no reason to fear any bad results from its use during warm dry weather, and perhaps none at any season, if fed to strong colonies that are well protected. Our friend Davis fed a colony every week all winter while packed in chaff, without injury.

### BRITISH BEE JOURNAL.

#### THE HEN AND THE HONEY BEE.

A lazy Hen—the story goes—
  Loquacious, pert, and self-conceited,
Espied a Bee upon a rose,
  And thus the busy insect greeted:—

'Say, what's the use of such as you,
  (Excuse the freedom of a neighbour!)
Who gad about, and never do
  A single act of useful labour?

'I marked you well for many a day
  In garden blooms and meadow clover;
Now here, now there, in wanton play;
  From morn till night an idle rover.

'While I discreetly bide at home;
  A faithful wife—the best of mothers;
About the fields you idly roam,
  Without the least regard for others.'

'Nay,' said the Bee, 'you do me wrong;
  I'm useful, too; perhaps you doubt it,
Because, though toiling all day long,
  I scorn to make a fuss about it!

'While you, with every egg that cheers
  Your daily task, must stop and hammer
The news in other people's ears,
  Till they are deafened with the clamour.

'Come now with me, and see my hive,
  And note how folks may work in quiet,
To useful arts much more alive
  Than you with all your cackling riot.'

*From the German of* Gellett, *by* J. G. Saxe.

## NATURAL SWARMING AND ITS ATTENDANT CLUSTERING.

MR. EDITOR:—When bees swarm naturally, why do they collect together on some object and not fly directly to the woods after leaving the parent hive? This was a question which excited my juvenile attention when I was but 10 years of age.

The ancient and honored custom of ringing bells, beating on tin pans and other sounding things, I had often noticed, and to my childish mind it appeared to be all important in stopping the swarm when on the wing. It happened that the family were absent at church on one occasion and I at home, lolling on the greensward or playing among fruit trees and roses, when the bees swarmed and clustered as readily as they could have done if all the Callithumpian troupe had been there on duty; and I had the pleasure afterwards of boasting to papa that I had hived the bees without noise or assistance. He said some persons borrowed excitement from the agitation and roaring of the swarm, and rang bells more from an ecstatic impulse than from a sense of its necessity; and he had no objection to such persons thus enjoying themselves, but that it had about as much to do in settling bees as that jargon of trumpets, gongs and horns used by the ancient heathen, had in frightening away the evil genius that eclipsed the sun as they supposed. It was manifest to my young mind that there was a cause for bees fixing on bushes or other objects and after observation I established the fact long before Langstroth threw out the suggestion, of a reconniotering party.

The bee is impelled in all its operations by instinct alone, which in some cases is so remarkable that some authors have attributed to them the power of rational conception.

When a swarm issues from a parent hive, either with an old or a young queen, they appear confused until they cluster, when they become docile and quiet. Why did they cluster there? Because they were homeless and would be wanderers, and instinct directs them to sojourn awhile until a set of explorers shall have discovered some cavity in cliff or tree suitable for a future habitation. A number of scouts varying from 30 to 50 leave the swarm before it is fairly settled, to explore the country in search of a cavity suitable for the propagation of their species, which is the end and aim of all insect creation. If these scouts are not successful, the swarm may be hived and permitted to remain in the same place and do well; but if they are successful, and on returning find the swarm where they left it, or near the place, they will immediately lead it away. Queen, workers, drones, all take wing, rise high in the air and abandon old home, kin and every thing forever, and no effort of the bee-keeper can arrest them. This result of a successful scout is as sure to transpire as night to follow the day. Perhaps one in an hundred will go straight to the forest without fixing on any thing, but in such cases they have been delayed from some unknown cause in swarming, been lying outside the parent hive, and have selected their future home before issuing forth. I have seen that occur three times myself, and they move differently from the absconding bees that have clustered before starting. Now those runaways went straight out of the hive to a hollow tree, moving slowly and near the ground, scarcely above your head and I followed all of them to their place of abode, once on foot, twice on horse back and did very easily keep pace with them; they took a "bee line" from the hives to the hollow trees not exceeding a half mile off. I suppose all such have found a hollow near by. I noticed a revolving lot of bees in each, about five feet through, leading the van with a hissing sound not unlike the sound of bees when exasperated—that sound is in plain contrast with the roaring of the great body of bees that bring up the body or rear of the drove, and it is that peculiar sound that makes bees frantic with the impulse to follow it, and they can not be prevented short of actual destruction.

I will remind the reader here that bees have different sounds to accomplish different ends. The only natural sound of bees on the wing is that revealed by the returning laborer at even when she comes laden with spoils collected from some flowery field. Who has not been charmed by such industrious energy, as those mellow tones die in the entrance of the hive. The shrill note of the pugnacious defender of the hive is familiar to every child. The sharp sound of bees just beginning to lead out a swarm heralds its advent to the apiarist and is very different from the two former sounds. The coarse bass roaring of the swarm before it begins to cluster, is only heard when they are in search of the queen, and is kept up by both workers and drones; then follows the sharp cutting sound as they begin to cluster, to call the colony together, which is well known to the bee-keeper as the signal of congregating. Then the shrill hissing sound of the escort that leads them to the woods blends with the roar of the rear part of the swarm making a strange compound heard only from absconding bees. Then again that "happy hour" when they have found a house, made by a peculiar position of body and indicating peace and contentment. Also a sound of distress when annoyed by smoke or enemies, rings through the hive, and no wail of distress from any other insect tribe can equal it; and finally we have the ventilating sound at the entrance and all through the hive, which in hot weather may be heard quite a distance. All these different sounds are instinctively associated with certain purposes, and the movements of the queen are generally governed by them. She thus follows certain sounds as do the whole colony. She never *leads* the swarm, but is attracted by the roaring mass and when she follows into a new hive an air of quiet, which security affords, follows. If she is lost or has stayed, after awhile her faithful children will leave the hive and in wild confusion look for their mother, giving out a sound of despair differing from all other sounds.

In settling this dense forest country—Mississippi river bottom—I deadened large tracts of land for future cotton fields. I found many bee trees in these deadenings when divested of foliage. In winter time I would cut them down, saw out a segment of the tree, including the hive when it was not smashed by the falling. They were placed upright as they originally stood and left to swarm next spring. Having 40 or 50 such stands I made a specialty of seeing them every day between 10 and 2 o'clock, during swarming time, and saved many new colonies. In riding one day through the deadening, I heard the shrill noise of escort bees and soon discovered about 50, circling around a tree, ascending to the branches, then going to the nearest tree and circling, descending to the very roots, and continuing ascending and descending from one tree to another, taking in saplings even, until I was led by them unconsciously to one of my bee tree colonies; and there hung a swarm in the bough of a small tree, and into that swarm they went. I was sure that was a band of bee scouts and believing they had returned without finding a hollow tree I hived them, and to test my theory let them remain on the spot. They did well. Thus Mr. Editor I deduce the following conclusions which I know to be practically useful to the bee-keeper who prefers natural swarming: 1st, they cluster to afford opportunity for the explorers to find a new habitation. Many times they fail to find one, and in *that case alone* the new hive may be permitted to remain where they clustered; but if the explorers find a home they conduct the whole colony directly to it; 2d, as the swarm is watching for the return of scouts, it is necessary to hive them without delay, and as soon as they are quiet remove them a distance from that place so as to thwart the returning scouts; and thirdly, the new colony will never flee to the woods unless the scouts conduct. I have kept a regular account running up to one hundred and eighty-two colonies thus treated and never had one to leave the hive. There are apparent exceptions; for instance, a colony clustering in the full rays of the sun on a hot day, will be driven off by its scorching rays to seek a more congenial resting place. Another exception is where bees in a dry sterile country, if they ever swarm at all, are almost sure to take wing in order to find a more favored region where their instinct suggests the pabulum of bee life may be more abundant.

GEORGE B. PETERS, Council Bend, Ark.

We can readily endorse all that our friend says in regard to the habits of bees, and especially that part of it relating to their different notes, when actuated by different impulses. A neighbor, while at work in the woods, saw bees going out and in at a hollow tree. The next day, he, with his boys, repaired to the spot and cut it down, but not a bee nor a bit of comb was to be found in the hollow. Careful inspection showed that bees *had* been at work cleaning out the cavity, and while they were talking about the strange phenomena, behold a swarm in the air circling about the very spot where the tree had stood. The scouts, in this case, it seems had selected their abode the day before swarming. Again, several years ago our bees were all going to the north-east, and on following them, we found the most dense mass of white clover at about 1½ miles from our apiary, that it has ever been our fortune to meet. The thought occurred to us then, that they might save a deal of labor by locating in one of the trees of the forest adjoining; and sure enough a large swarm with the largest queen in our apiary—"Giantess" of the *A. B. J.*, Vol. III,—left their hive for that precise location just a few days afterward. This is the only swarm we ever had, that did not cluster, and we have always thought it was the clover that induced the move, for they must have had it all arranged before swarming.

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## 5000 LBS. EXTRACTED, AND 200 COMB HONEY, FROM 26 HIVES.

WE are inclined to think friend Curry must have covered *all* his hives with manure last spring from the report he gives, although he says nothing about it. Listen to him:

DEAR NOVICE:—Our honey harvest is over and we have some spare time to look around and compare notes. In the spring we started with 26 hives, but on examination found 5 without queens; an unusual fatality owing to our keeping some old queens over that should have been replaced. The season was so bad last year and we found it so difficult to raise good queens that we became discouraged and gave it up, hence the result. However, we made the best of a bad bargain and raised young ones as soon as possible to fill their places. The season closed about the 6th of July and we found ourselves in possession of over 5000 lbs. extracted and 200 lbs. comb honey in small frames. The extracted we put in new half barrels; we tried old maple syrup barrels at first, but came to the conclusion after spending any amount of time coopering, that new barrels were the most economical. In regard to waxing, if the inside of the barrel is cold when waxed, the wax will scale off in time. To obviate this we first took the head out, held it over a charcoal furnace, and then after coating it with warm wax, it was heated in again and left to cool. On account of the great quantity of fruit, sales have been rather slow but we shall have no trouble in disposing of it all at 20 cts. in ten and twenty lb. lots. Have sold over 200 lbs. in that way during the last week. Some of our brother bee-keepers feel discouraged because they haven't disposed of their crops, but they will have to be patient and all will be well. We have issued a small circular that we are sure has done much good in the way of educating the people. We meet so many that can't see how it is possible to sell pure honey for less than is charged for comb and all, besides the trouble of taking or squeezing it out. This circular explains the whole process.

I promised some time ago to give you the result of some experiments in detecting adulterations in honey but have hesitated hoping that some more able pen than mine would undertake a matter in which we are all more or less interested. It would astonish not a few of us if we could see what doctoring processes some of the most common articles used on our table have to submit to. It would be hard to mention a single one that is not adulterated in some way; from the tea and coffee we drink, to our daily bread. Is it any wonder then that honey should have to bear its share? From our many experiments we think honey is perhaps as little adulterated as any; the most common article added now is glucose or grape sugar. But I have also found cane sugar, and wheat starch; the latter is put into old honey to improve its color and also to correct that sharp acidulous taste. This is very easily detected by the microscope; dilute a little in water and add a drop of tincture of iodine. On placing it on the stage of the microscope the starch grains will be seen colored dark purple.

The cane sugar is not so easily detected excepting the taste, or if granulated the difference in the crystals can be easily seen by means of the microscope, the crystals of the cane sugar being much thicker. There are several chemical tests but they are too complicated to be of use to the ordinary bee-keeper.

We now come to the most common article of adulteration, glucose. As honey itself contains a large per cent of this, some chemists say it is impossible to detect it by any simple means; and so it would be if it could be made strictly pure. Glucose is made in this country by allowing a mixture of starch and water at a temperature of 130 degrees to flow into a vat containing water acidulated with one per cent of sulphuric acid, and kept at the boiling point. In half an hour or so the starch is converted into sugar, the liquid is drawn off and the acid neutralized by the addition of lime. Before it is ready for the market it goes through several other minor processes depending on the particular use to which it is to be put. Those beautiful corn syrups we see at the grocers are the finest qualities. I have some samples as clear as crystal. A commoner grade is used by brewers and is the kind used to adulterate honey. It is very thick, due to a considerable quantity of dextrine contained in it. This can be seen by treating it with alcohol; the alcohol will dissolve the glucose but leaves the dextrine in the vessel in the shape of a white gum. By pouring a little pure honey in alcohol it will be found to dissolve completely; therefore if dextrine is found in honey I should pronounce it adulterated without further test, but if it shows no dextrine then proceed to test it for traces of sulphuric acid by dissolving a little of the honey in distilled water in any clear glass vessel, after which pour in a drop or two of chloride of barium. If manufactured glucose is present, a whitish precipitate will be found, but if pure honey, it will remain just as clear as before. Care must be taken to keep everything as clean as possible and to wash everything after making one test, before making another.

Before closing, I wish to refer to the beautiful golden grains that can be seen floating around in the honey, under the microscope; these are in such perfect condition that they can be referred to the plants from which the honey was gathered. Thus a close student would be able to tell from what plant any sample of honey was gathered. I supposed till lately and indeed stated such to be a fact, that extracted honey contained no pollen, but I would now be ready to condemn, as manufactured, a sample containing none.

H. E. CURRY, Cincinnati, Ohio, Aug. 27th, '76.

In regard to waxing the barrels, if they are made warm in the sun, and the wax—not less than a gallon—is pretty hot, it can be done perfectly secure, without the trouble mentioned above. We are inclined to think paraffine much better than wax, as it melts easier, and when melted, it is as fluid as water, running into every crack and crevice, and even through, if the barrel is inclined to be leaky. It sticks much better than wax, is even *more* durable, and it goes much farther. We can furnish it at 20c per lb. for this purpose.

## BAD EGGS

FRIEND NOVICE:—As it will soon be time to put our bees in shape for winter, we concluded to give you the results of our experience for the last two or three winters.

We choose this text "Bad Eggs" because on two important things we learned valuable lessons. Some years ago we were engaged in the confectionery trade and during the winter season we used a great many eggs. We put them in bbls. with a solution of salt and lime. For two or three seasons they were put down as we purchased them without any test as to whether they were good or bad. *Just as some bee-keepers do their bees.* Well, of course they came out just as you might expect, good and bad. *Just as the bees do.* Well, after a while we applied a test to separate the good from the bad and the result was, nearly every egg kept well. We have been testing bees for winter stocks on this principle, and the result has been very satisfactory. From all quarters more or less bees are reported starved to death in wintering. Well Mr. GLEANINGS, in our humble opinion, letting bees starve is about the meanest thing a bee-keeper can be guilty of. I certainly would be ashamed to have my neighbors know that I had starved some of my cows, and yet many of our stocks of bees to date have paid more clean money than a fifty dollar cow, and shall I put them on short allowance for winter? No sir! I will supply them with abundance enough to last them till June 1877. Now brother bee-keeper put up good eggs and you will take out good eggs.

We will now tell you, what we want in a stock of bees for winter. We do not want the hive crammed full of bees; we use from 7 to 8 and 9 frames for winter, size 13½ x12½ outside measure, and in the cold days of November, if we find from five to six ranges of comb filled with bees it's all we desire. Again, we want honey enough between all these combs to last the bees till spring that they may not be compelled to move to the right or left in search of stores unless the weather is suitable for them to do so. Some stingy bee-keeper wants to know how much honey they will need to last them from October till the following June. Well, not less than 35 lbs., and 40 will do them no harm. It is just fun to overhaul stocks in April, that have plenty of honey and see the amount of brood they have. Besides, should they have too much, some may have too little, and you can use it to good advantage. We have got through with feeding bees in spring and consider it waste of time.

Again, bees should never occupy a larger space than they can keep warm; for that part of the hive that is cold, will always be damp. Those bees you read about that starve with plenty of honey in their hives died because they could not keep warm and expel the moisture, or because there were not bees enough.

We have made section frames a success, some stocks have filled three cases, of 40 lbs. each. The only trouble we anticipate is that the queen will spoil more or less in almost every one of them. Such has been our experience. Is there a remedy?

Cutting winter passages in the combs, in our experience does not amount to anything, providing your stocks are well supplied with bees and honey; as such stocks are not compelled to ramble all over the hive in search of honey in unsuitable weather. J. BUTLER.

Jackson, Mich. Aug. 20th, 1876.

Our ideas exactly friend Butler, if we except the one single item of too many bees. We never yet had a colony too large if every thing else was in keeping. Give us the mammoth swarms, and then perhaps they may need the 40 lbs of honey you speak of. In such a case we can look for swarms when fruit trees are in bloom, and then for the sections filled with pure clover honey.

## FROM ACROSS THE OCEAN.

DEAR GLEANINGS:—I have been so successful with my bees this season, having obtained from several hives 1 cwt. each of comb honey, that I intend to go in for bee-keeping more exclusively next year, and write to ask you for a little information. Enclosed is $1,50 for Volumes I and II of GLEANINGS, which I hope will assist me in the matter. I have an open field of about an acre, bounded on one side by a 15 feet river and wish to set up in it, say 25 hives next spring; the movable bee house is ready built and the hives are to be grouped around it. Would you salt and gravel the ground where the hives are to stand, and set up the the latter, say 10 feet apart? I have found that my hives do best facing south, and as they are all double cased there is no *need* of shade, but nevertheless I intend to grow shrubs between them, if only to prevent the wind sweeping through. What plants would you recommend?

My hives have always been painted all of one color, but I have found the bees during honey gathering entering any hive indiscriminately; also when I disturbed one the bees in it would flock into the next one. I think the boxes had better be painted different colors if only to prevent young queens getting lost, what color is best?

I use a frame hive, inside measurement 17 inches, 12 wide and 11½ deep, and a bottomless frame with a strengthening bar across, nearly half way down. I find this frame very strong and serviceable.

Every drop of honey is extracted in autumn (even from brood combs) and sugar syrup is very gradually fed them instead, causing the hives to be filled with brood and enabling them to pass the winter perfectly without being liable to dwindling in spring. There is very little market for honey in England, but 25c for extracted and 36 for comb can generally be obtained.

J. P. J.

Percy House, Tottenham N., London, Aug, 29, '76.

Very glad indeed are we, to learn that our English cousins are able to give such reports. We would not have the hives more than 6 feet from centre to centre, and even if painted all of the same color, think there will be no danger at all of loss of young queens. Bees going into adjoining hives during the busy season, will we think occasion no trouble, and we are inclined to think it less frequent than our friend imagines. We have noticed the same, when the yield of honey was such as to almost craze the bees with the abundance. We favor painting the hives white in our clime, because they do not get so heated up by the sun as when some dark shade. For shade, we much prefer the concord grape vine on account of the facility with which they can be grown so as to afford a perfect protection during the middle of the day. Evergreens might do as well, if carefully pruned, but it would require a much longer time to grow them. The dimensions of frames are quite similar to our L. frame,but we believe the bar across half way down, has been pretty generally discarded among our people. The queen gets on one side, and seems averse to crossing over. The price mentioned for honey, in your money, friend J., seems encouraging to apiarists, to say the least. We use sawdust to keep down weeds; salt and gravel would be nice, but we think, rather expensive.

GLEANINGS IN BEE CULTURE.
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EDITOR AND PROPRIETOR.
MEDINA, OHIO.
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[*Including Postage.*]
*For Club Rates see Last Page.*

## MEDINA, OCT. 1, 1876.

Yea, though I walk through the valley of the shadow of death, I will fear no evil: for thou art with me; thy rod and thy staff they comfort me.—Psalms, 23: 4.

◆

Are your bees ready for winter? If not, would it not be prudent to get about it at once?

◆

Painting bottom boards we find to answer quite well for preventing their being covered with wax and propolis. Some that have been in use two years, are almost as nice and clean as when first given the bees.

◆

Our bees are to be wintered on their summer stands; not a bee is to be bothered by being lugged about, and if they die, it will not be of home-sickness. The greater part will have only the chaff cushions pressed closely down on the frames; some will have chaff on all four sides, some on three sides, and some on only one side. A dozen or more, will be entirely surrounded with chaff, bottom board and all.

Many reports seem to indicate that bees, as a rule, will not store comb honey while queenless. If the colony is very strong, all hands will hang about idly, and only commence work when the queen begins to lay, and then they work with a rush. Beware how you leave a strong colony queenless during the honey season.

◆

Bees are again to-day—Sept. 25th,—gathering honey from the red clover. This is shown by their loads of dark green pollen, which so far as we can learn, comes from no other blossom. A visit to the fields showed them busy as could be, pushing their tongues clear down to the base of the petals, and then packing the adhering pollen, while on the wing.

◆

If the chaff packing is really going to be needed during the summer time as well as winter, the house apiary seems to be the cheapest and readiest way in which it can be applied; and the convenience it affords for putting any number of section frames, either at the side or on top of the hive, without the bother of enlarging the hives as we are compelled to do out doors, is certainly a great advantage. It seems as if ours must winter safely, in the way it is now filled with bees blanketed with chaff pillows.

◆

We would recommend using a single thickness of cloth over the frames before putting on the chaff cushions; this will prevent killing bees that might not get out of the way when pressing the cushion down, and will also keep the cushions from being soiled with propolis. And if the sheet of cloth used is duck, there will be little danger of the bees biting holes through. Holes in the cushions will make more trouble than do those in the quilts, for chaff will sift out where the batting would not, and chaff scattered about in a bee hive would not be very pleasant. As we have said before, duck or canvas is the only material we have found that the bees would not bite through.

◆

Honey *boxes* are at a discount in our vicinity; we are told the city of Cleveland is overstocked with nice honey in boxes, but that they cannot get enough of the small sections. No glass is wanted about them, but the lighter the wooden frame, the better they sell. One dealer remarked that he did not care whether they were all straight or of an even thickness or not, and if some of them contain only ¾ lb, all the better, for there was always somebody who wanted the cheapest one. If they were only so they could be handled without any daubing or dripping, they would always sell. The Universal sections, seem to please invariably; even those that are only partially sealed over, as the price is only a few cents, are taken off our hands without a word, at a uniform price of 25c. per lb.

◆

As to whether people will prefer to pay 25c. for comb honey rather than 15 for extracted, time alone can determine; but it is pretty certain that *nice looking* comb honey can never have the ripe rich flavor of well ripened extracted; for the ripening process, is so far as we can discover, sure to spoil the beauty of the comb. If you want some real genuine honey, entirely free from the raw taste of both comb and extracted *new* honey, take a frame that has been in the hive two or three months, and whether you get basswood or clover honey, you will find the flavor as much ahead of that taken out in June and July, as can well be imagined. If you have some hives that are too full for winter, just extract a few some warm day and see what *you* think about it. It may prove slower work than in July, but the quality of the honey will repay you.

## COMB FOUNDATIONS.

### THE OTHER SIDE OF THE MATTER.

SUCH scores of pleased reports were received from all sides after we used nothing but pure wax, it never occurred to us that any one could be displeased with them, and in fact nothing unfavorable was received in regard to the yellow, until rather late in the season. Geo. Perry, Peru, Ills., complained that his bees would not go into the boxes containing the white, and as we are obliged to purchase the white from the wax bleachers, we thought it might have in that instance contained something the bees did not like. We returned the $3.00 he sent and $4.25 more for express and trouble. But two complaints have been received in regard to the yellow; one is from R. S. Becktell, New Buffalo, Mich., who says they sag or bulge unless kept straight by sticks every four inches, and that the queen does not lay in them. This may be because he did not have a filled comb at each side as we have done, and it is *possible* that we may have been so careless as to get hold of wax adulterated with tallow. To guard against this we have carefully examined it all, and cakes that seemed suspicious, have been made into sheets and tested in our own hives. So far, we have never found a piece of yellow wax, that would not make beautiful emob, and we have tested some almost black. The other and the strangest of all, comes from Mr. Herbert Burch. As he furnished the wax for the 24 lbs, and as we called it an unusually fine lot, it is hard to see where trouble could get in, and yet he says the queens will not lay in it, that it is raised into comb much slower than they build natural comb, and that the honey is not salable after it is stored. He lays the trouble all to our making the sheets 4½ feet to the lb, instead of 6 as he ordered it, and makes out a bill of damages at $50.00, saying he lost $150.00, by putting the fdn. in 300 boxes that would have been filled, and would have brought him 50c. each, had he not done so. We have paid the $50.00, but with it went the best appeal we could make for a little more mercy on our hard earnings. We have not heard definitely from Mr. B. since; he may be inclined to think differently and it may be we are wrong, and that it *is* right for us to pay the money.

Mr. G. M. Doolittle is the next and last, and his claim that the thickness of the bottom of the cells is a serious objection is not worth debating, for tons of the honey have been produced, and hundreds of bee-keepers have used the fdn. We can if desired make fdn. for boxes, so thin as to be almost nothing at all, though it may be hard to make such sheets a foot wide. We have at present more than 1000 partly filled section boxes, and an ordinary observer would find no difference in the cells below where the fdn. extends. We can find occasionally one where the fdn. has been left something near its original thickness. The last and most serious objection is that the fdn. does not save the time of the bees to any great extent. Mr. Doolittle thinks a triangular piece of natural comb, 3 inches on a side, will be worth as much as *filling* the section with fdn. To test this we have tried perhaps two dozen sections with natural comb of all sizes, and have had them distributed through different hives. If we made no mistake, all but the largest were behind the fdn., and were so irregular, compared with the fdn., that we decided in favor of the fdn. In our large glass boxes, the bees covered the fdn. completely at once and the boxes were filled throughout almost at the same time, while with starters, they progressed only as fast as the combs were built; this latter was in the house apiary where we could watch it constantly.

A sheet of the same lot that Mr. Burch complains of, works beautifully in our hives, and it contains brood at the present time. Any who are inclined can see plenty of nice combs, made from both white and yellow in our apiary, and yet we have never thrown one away. We would advise using a piece of fdn. for each section box, about 4½ inches square; and at 75c. per lb. this will cost about 2c. Now if a piece of natural comb, new and white, of this size, or perhaps a little smaller, can be furnished for the same money, we shall without doubt be obliged to lay the fdn. aside for box honey. Will friend D. tell us what his starters probably cost him, taking into account the time the bees lose when they are building them?

About the damages; for two years past I have paid every claim of the kind that has been made, and I have proudly mentioned that among our hundreds of patrons I have hardly felt one to be unreasonable. I dislike to lose my faith in humanity, but seriously, a few more bills for $50. and I should be unable to keep up GLEANINGS, even with all its faults and failings. What shall I do?

## THE CENTENNIAL HONEY SHOW.

MR. EDITOR:—As the time is fast approaching, and many inquiries are made, we will again give notice that the special show of honey and wax at the great International Exhibition of Philadelphia, will commence October 23d, and close November 1st, 1876. Entry blanks can be procured of Capt. Burnet Landreth, Chief of Bureau of Agriculture, or of the undersigned.

In addition to the inducements offered by the Centennial Commission, the North Eastern Bee-Keepers' Association offers $35,00 for the best and most meritorious display of comb and extracted honey and wax, conditions as follows: The honey and wax must be of fine quality and put up in elegant packages, such as are most likely to find ready sale at high prices. *Other things being equal*, the larger the display the greater the merit.

The appointment of judges on this prize is retained by the Centennial Commission, the award being subject to the above regulations.

The Association offers $25,00 for the best and most practical essay on "How to keep bees successfully during winter and spring." These essays should not treat on the physiology of the bee, except so far as is necessary to explain instincts and management.

This is suggested with a view to making them brief. With bee-keepers, the ultimate idea of SUCCESS is the attainment of pecuniary reward, and in deciding upon the merits of the essays, the judges will keep this idea prominent. Arrangements are being perfected to have a committee of three from different parts of the United States to decide upon the best essay.

We certainly hope a lively interest will be taken in the matter of display, so that American bee-keepers shall get the credit due them for the rapid progress they have made.

We have written the officers of the National Bee-Keepers' Association for information as to their operations; the president informs us that his health is too feeble to make any arrangements, and the Secretary had supposed the association nearly or altogether dead. We were sorry to hear of the want of energy that has characterized the operations of that body of late.

Upon *this* occasion the attendance of bee-keepers should be the largest ever known in this country. The varied and magnificent display at the Exhibition, the show of apiarian apparatus and special show of honey, together with the satisfaction attained from a fraternal shaking of hands and mutual interchange of ideas, of those long acquainted through printed mediums, should be ample inducement to make a long trip to this meeting.

The president writes that he thinks the change in time advisable. In accordance with the arrangements and this opinion, we announce that the NATIONAL BEE-KEEPERS' ASSOCIATION will meet at Philadelphia, Pa., October 25th, 1876. Bee-keepers will please report themselves at the department devoted to the display of honey, at 10 o'clock A. M.

After temporary organization, the association will adjourn to some convenient, suitable place, for the use of which arrangements will be made.

We hope the special inducements offered for this meeting, will be appreciated by bee-keepers generally and we anticipate a large gathering. One suited to display the importance of our industry in this Centennial year of American Independance.

J. H. NELLIS, Sec'y Centennial Committee
of the N. E. Bee-Keepers' Association.
Canajoharie, N. Y., Sept. 16th, 1876.

## DOOLITTLE'S REPORT.

By turning to pages 155 and 171, present Vol., the readers of GLEANINGS will see how we stood June 15th. About this time clover opened, but our bees hardly got a living, as it rained nearly every day. June 22d bees commenced to swarm and as they were not getting honey enough to build any comb we could not control the swarming fever; or at least we did not succeed in doing so. We do not believe there is such a thing as a nonswarming hive with the Italians in such a season as the past has been. If bees get just honey enough to rear brood rapidly, and still not enough to build comb they will swarm, no matter how much empty space you give them. On the other hand if they get honey so as to build comb rapidly the fore part of the season, they will swarm but little. Black bees have swarmed but little in this locality and have done little else, while the Italians have swarmed freely and made some honey. We wonder how many have tried the plan given on page 153, to get an "enormous" yield of honey. Our bees are just fools enough to swarm in from 10 to 15 days after being hived on brood in that way. We have repeatedly tried it and just as often failed. Novice tells us several times the past season, that if we don't wish our bees to go out with the queen in her first flight, to give them a frame of young larvæ thereby giving the bees employment at home. We were never bothered in that way very much, till this year. But this year every thing swarmed; so we thought to try it, and in every case the bees built queen cells and then swarmed, which made it just no preventative at all.

But to return to our report. Basswood opened July 11th, but we could see no gain till the 13th, at which time our bees would not average 2 lbs. to the hive, with no start made in the boxes. Then came seven days of honey yield although it rained a part of each day. With the 21st came the end of the honey season for 1876, although we kept hoping that they might get something from the second crop of clover, teasel or buckwheat; but alas, all failed. Teasel seemed to dry right up, as we had a change from wet to dry about the 22d, clover (second crop) did not get farther than the bud and buckwheat was an entire failure, so to speak, for we have not 100 lbs. in our whole yard. To sum up, the past season has been the shortest honey season we ever knew, and yet we have no reason to be discouraged, as we have obtained 2994 lbs. box honey and 356 lbs. extracted, or 50 lbs. to each old stock, on an average. Our box honey we have sold at 20c per lb., and are retailing the extracted at 15c. We have at date 163 colonies, but shall not go into winter quarters with over 120, as a part of them have not stores enough, and we propose to make them self-sustaining. So we shall unite them down to where their stores will carry them through the winter. Our average yield of box honey per old stock in 1873 was 80 lbs., in 1874 a fraction of a pound less than 100, in 1875 a little over 106, and in 1876 nearly 45 lbs., say nothing about the extracted. Our profit from bees during the past four years, after paying all expenses incurred by them is nearly $4000. So who will say bee-keeping is not a profitable business?

Novice was sceptical when we said on page 135, Vol. II, that one man could tend 100 colonies, and that these 100 colonies would give an income of $1000 each year; and yet we have done it for four years, with an average of less than one-half that number each year.

We have learned many things the past season, and one of them is that all rules, with bees, fail in such a season as the past has been. The secretion of nectar is a great mystery to me. When every thing seemed as favorable as could be, not a drop of honey was secreted in the flowers.

The plan given by James Bolin, page 207, to prevent after swarming, will not work with us, with the Italians, once in five times. If any one will notice a hive after being thus removed, they will see that it is only the bees that are in the field that return to the old stand, as all bees that leave the old hive after being removed, mark their location as does the new swarm. We have practiced the method given for the last three years, but always have to destroy queen cells, or have after swarms.

Novice, we beg of you if you want your bees to enter the section boxes quickly, do not scrape the bits of comb off the tops of the frames; for there is nothing that will pay as well in the apiary as to leave those bits of comb to lead the bees to the boxes.

J. E. Crane asks, page 221, if smoking honey with sulphur does not injure the flavor of it. You can in no way injure honey with sulphur except by getting the smoke so dense as to give the combs a greenish hue. As soon as the sulphur has entirely burned up, or about ten minutes after it has killed all bees, flies, etc., that may happen to be in the room, open doors and windows and let the smoke out and there will be no trouble.

G. M. DOOLITTLE, Borodino, N. Y., Sept. 12, '76.

Why, it seems friend D. that every thing has failed with you this season, except honey in section boxes, and as that is the *main* item you certainly need have no reason to complain. *Unsealed* larvæ *may* fail, we are well aware, but the exceptions are so very unusual, that we think it can be laid down as a rule, that bees will never desert a hive when supplied with one frame containing eggs and very small larvæ. We have never yet had a case of swarming (we think) where empty combs were mixed in with the filled ones as often as they became full, and the present season plenty of empty combs in the upper stories has been unfailing.

But if the section boxes set directly on the top of the frames, they will put these little bits, and all this useless labor, where it will be utilized; and with our arrangement of sections each one can be lifted out almost as easy as if it hung on rabbets. With smoke at hand, new ones can be quickly put in their place, without any killing of bees.

# Heads of Grain.

## From Different Fields.

DEAR NOVICE:—I am offered five colonies at $4.00 each; but the condition they are in is deplorable; they have received no attention whatever for several years, and I don't think they have made one lb. of surplus honey in that time. Would it do to transfer them during September? or would it be better to take the best possible care of them as they are until spring? Three of them are in box hives, and two in old Langstroth hives of which they have filled the top story with combs and have been breeding both above and below. There are no frames in the upper hives, and one cannot inspect them without breaking the combs as I did on endeavoring to see their condition. It would be quite a difficult job in transferring them, to remove the comb. I was told during July, by an old and experienced bee-keeper, that it would not do to transfer them, and all they were fit for was to brimstone and take the honey which would probably be worth as much as they were offered to me for. I am the veriest tyro, having no knowledge of bees but what I have learned by reading a great deal of GLEANINGS. Nevertheless I am inclined to think they could have been easily put in frame hives during July, and possibly yet could be if they are fed to make them build up their broken combs. what do you say? The hives are almost falling to pieces having openings and decayed parts that you could put your finger in. J. R. EDDY.

Wheeling, W. Va. Aug. 29th, 1876.

They can be transferred, even in September, if you chose to take the time to do it, but it may be nearly a half day's work to do it well. If your bees are getting no honey, and robbers around, you will have to be *very* careful that no honey is allowed to run out and get them started. Work slowly and carefully, and clean up every thing as you go along; the thick heavy combs, you had better leave out until the last, and then give them only so much as will make a good supply for winter. Get the brood combs into the new hive as soon as you can, and put it in place of the old hive, that the bees may cover and defend them, and commence slicking up their home. When we can spare the time we consider it just fun to transfer such a colony, even in the fall. Have a sauce pan full of rotten wood, and make smoke enough so that you can drive them entirely out of the way when you are cutting the combs, and be careful that you neither kill bees, nor get things daubed generally; after they get their combs fastened, feed them until they have every thing built out strong, and have an abundance of honey. The honey alone is probably worth the $4.00.

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I do not understand how you put the fdn. in section boxes. All the way I could devise was to put two pieces for top and bottom and one for sides; of course the fdn. should be perpendicular. This arrangement does not leave space for the bees to pass up and down. When the fdn. came I took all the comb from a strong colony and gave them the four sheets. In 36 hours they had one sheet about half filled with honey but the queen does not seem to like to use them. One of them was quite narrow, the bees built it down with natural comb and the queen stocked it with eggs as fast as built, but not until there was room nowhere else did she lay an egg in the fdn. Do you have such experience? Your "custom" of making good all breakage looks as though you "acted by the plumb" and practiced what you preach.

J. A. WARD, Madisonville, Ohio, Aug. 21st, '76.

As the fdn. must be fastened securely at the top to make a sure thing of a good comb in every section every time, we have had to abandon our original plan of allowing the sheets to be held by the open spaces in the section, and now cut into 4½ squares and fasten them only at the top, with melted wax and a pencil brush as given on page 173. In our apiary we have had no trouble at all in getting eggs in the fdn., but a very few have sent reports something like your own. We have often had queens exhibit an apparent aversion to particular frames of natural comb, and we think it can be nothing more in this case. We have so many filled with brood in beautiful shape, that we can not think there is any serious difficulty in the matter. If our customers place their money safely in our hands, we are going to try to put the goods as safely in theirs, with no other expense to them than the freight or express.

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I started with six stocks of black bees in box hives last spring; I now have eight and four are in movable comb hives of my own make; had GLEANINGS for my "boss." Framed hives and Italians are a new thing here; have never seen an Italian bee. There is a man by the name of Muliver, that has passed near me and sent me word that he was coming to see me, and I suppose to indict me. He is selling rights for framed hives, he claims to have a right on all framed hives and says there is himself and nine more in a company, and that Mitchell is head boss of all. He don't seem to know anything about a Bee journal. Now when he comes what must I do or say? Must I show him GLEANINGS, and what you say about Mitchell, or must I drive him off? I would like to know what you think about it.

I agree with A. J. S., and say that bees do gather pollen from pumpkin and squash here; perhaps they will from one thing in one part of the world, and another in another part. Would it not be well to think of this? Z. D. HARRILL.

Mooresboro, N. C., Aug. 23d, '76.

When such men call on you, treat them pleasantly, but tell them firmly what you think about such business. If they threaten, pay no attention to them whatever, and we find it one of the best ways in the world to decline discussing the matter at all. Give them a copy of GLEANINGS, if they will accept of it, and we will give you another in place of it. Whatever you do, do not waste time in arguing with such men.

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Our bees are doing well. We have 400 stands now, from 120 in the spring. We have taken but 500 lbs. box honey yet. The bees are now working on buckwheat and bone-set. We have a new hive that we call the centennial with honey boxes or frames in front of brood chamber and by closing the lower entrance we can force the bees into the front boxes or frames. The hive is double, outside of hive 24x18 inches, and holds 9 American frames. It has two division boards. We had 100 put up this summer.

LEHMAN BROS., Delphos, O., Aug. 28th, '76.

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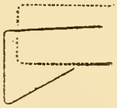
We are offering our honey at 7 and 9c. per lb. according to quality. NUNN BRO'S. Oberlin. O. Aug. 27th, 1876.

Will you please tell us how you make your light covers? Also how your hives are fixed, that the queen may return again? Does your hand ever tremble when catching queens? If you do not like a stone on top of a hive, get a bucket hoop, cut off four pieces about three inches long, punch holes through and nail to the sides and ends, letting the ends project the thickness of cover. Put holes through the cover to receive the hoops, push a nail through on top of the cover and it has to stay there with no warp about it. This will also keep top story on.

HENRY FUNK, JR. Bloomington, Ills. Aug. 11th. 1876.

Covers are made of ½ inch pine about 16x20, with a groove made all round the edge with a very thin saw. Into this cut, we push strips of No. 28 galvanized iron, folded thus:



The dotted lines represent a section of the wood, and when the metal is in place, the corners are lapped slightly and soldered. The wood is by this means clamped in a stout iron frame, yet it is free to swell and shrink by the weather without splitting or drawing nails, for it can slide along the saw cuts. The metal is 1¼ inches wide, and the folds are made ⅜ inch from each edge. The lower fold is of such an angle as to fit the bevel on the upper edge of the hive or hoop that holds the quilt. We have very rarely had such covers blown off by the wind, and the machinery you mention friend F., would be more complicated than we should like for a bee-hive. We cannot see why the upper stories should ever need any fastening; ours are more in need of some invention to keep off the propolis that they may be separated when needful. When shipping bees we like things keyed down fast, but at no other time. Our hives are all directly on the ground and we keep it so clean around them that any bees or queens that are dropped, have no difficulty in getting back. Although we have worn off all nervousness in handling queens, we seldom do it, for fear of their being stung as intruders when returned.

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The honey machine sent, came at an earlier date than I expected. Considerably damaged by express, shaft bent by pitching, probably. I was very unwell when I received it, but as soon as I became better I straightened the machine, and using it, filled 3 barrels (nearly 1500lbs) and having a note past due I put out peddling honey, but found it quite slow business on account of the manufactured honey that has been in the market heretofore. But I think I am on the right track for a fair market and a fair price. I made a thorough canvass in *one* lively town at least. Sold or left sample at almost every house. Sold in quantities of from 1 to 15 lbs. at 20c. per lb. Disposed of about 500 lbs. It was very thick and nice linn honey. Had to spend much time to get many to even look at it. I did what I could for you and GLEANINGS; having a number with me you sent as a sample, I exhibited it when I thought there was any use. I also had copies of *A. B. J.* Have no subscribers yet but each office will certainly get orders for machines and Journals. I will send names of a few persons having bees and others who were much interested in bee-keeping and talk of making it their business. I left home with the expectation of selling out in four or five days, but I could not wholesale it to grocers, and was nearly 50 miles from home, so I went to work in earnest, taking street by street, visiting almost every family in the city, and if I have not gained some customers for my honey I shall be much mistaken; also an opening for some bees, hives and extractors. Times are very close here. We shall commence extracting again this week and probably get 10 or 1500 lbs. Have at present 58 colonies of bees. MOSES BAILEY.

Winterset, Iowa, Aug. 28th, 1876.

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What is the size of the rollers in the comb foundation machine? Of what metal are they made, and what is the price of them? What kind of punches do you use to make them with, and what is the price of the punches?

L. HEINE, Smithville, N. Y.

The diameter of the rolls is three inches and they are made of lead and tin, about in the proportion of tinner's solder. At present we could not furnish them with the cut gearing neccessary to run them, for less than $100. The punches are of tempered steel, and they can only be used in a very ingenious machine made to gauge the depth, and to move the roll the proper distance at each stroke. The punches alone could be furnished for perhaps $5.00, but they would be of no use without the graduating engine. Since the fdn. is proving such a boon, we should be very glad indeed if the machine could be afforded at a low price. As it is quite a trade to use them and to handle the wax, perhaps it is just as well to have it worked by experienced hands who make it their business.

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The comb fdn. came to hand. It is a capital thing, the invention of the Extractor is nowhere compared with it. I cut your 12x18 sheets into 40 to 50 small strips and simply use them as ladders for the bees to climb up on. I received 2 lbs. of yellow fdn. from Perrine to experiment on in the body of the hive. To fill a Langstroth frame half full, fastening at *top* and *ends* is the best way.

T. G. MCGAW, Monmouth, Ills. Aug. 17th, 1876.

I am getting the "biggest crop" of buckwheat honey you ever dreamed of. I moved 19 hives 5 miles, and placed them where they have access to a hundred acres within two miles. The first two weeks they averaged 25 lbs, to the hive. Most of the cases are full and nearly sealed up. Hurrah for our side. Hurry up the 400 sections.

S. F. NEWMAN, Norwalk, Ohio, Aug. 28th, 1876.

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The fdn. came duely to hand and I must say it is a much better article than Perrine's and just as cheap, for it is a great deal firmer and heavier while we get just as much surface to the lb. It works A. No. 1, and here goes our old hat for the "fdn."

We here have much risk to run in getting our queens by mail, for they come on the Lightning Express which does not stop here, and the mail bag comes off with force enough to kill a man if it should hit him. But we have received several dollar queens from J. Oatman & Co. Dundee, Kane Co. Ill. by this same train, and they have all come as lively as crickets. If queens can stand such treatment as that, they can endure a good deal, and I must say that the dollar queens from Oatman & Co. are the quietest, stick-to-the-comb bees I have ever handled. My "Dundee" bees are my pet and pride.

WILL M. KELLOGG, Oneida, Ill. Aug. 21st, 1876.

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I had in one place last spring four hives; I now have twelve, and 3 went to the woods, which makes eleven swarms from four old ones, and all are strong. How is that for Orville. I have 54 hives in all. I am hatching in lamp nursery; last week I introduced six and have four now. C. I. YODER.

Orville, Wayne Co. Ohio, Aug. 19th, 1876.

The sourwood, usually our main dependance was almost a failure. Bees are now working very strongly on buckwheat, and two kinds of grass or weed. I do not know what it is; it commenced blooming about the first of July and will continue until frost. Bees relish it very much. Find enclosed a sprig of each. My combs are now all filled with brood and honey. I have no extractor.

What is a section box? Please send me one, and a piece of foundation. I have never seen any of either.

R. H. Abbott.

P. S.—I had a swarm of bees come off to-day, Aug. 15th, leaving all the combs filled with brood and honey. They settled on top another hive near by. I found the queen, caged her and tied the cage to a bush, which they all soon clustered round and I put them back into their old hive. Why did they leave?

Lenoire Station, East Tenn., Aug. 15th, 1876.

The plants were nipped too short to analyze. We need leaves. One was a mint. All mints are valuable. Tell subscribers to send good flowers, good leaves, height of plant, and locality.

We are having a splendid fall for honey. Golden rod, and other fall bloom yielding most bountifully. I feel better. Can afford to lose white clover every year, if we can have such a yield in Aug. Commenced Aug. 10th.

A. J. Cook, Lansing, Mich.

Will our friends please remember the directions for specimen plants? The swarm was simply a natural one, and came off because they had their hive full we suppose. Be sure and give them room.

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I was wondering what one of our little traps you would pitch into next, when here comes your notes of war on the smokers. We don't sympathize with you *one bit* for getting your eyes daubed with tears nor for the stings you got. Yes sir! *veil and gloves.* We think *you* are wrong when you say something is wrong when we have to barricade against the bees in that way. Suppose you have a stock of hybrids that you *must* look through for queen cells, or for any other purpose; I think it's the better way to have a veil handy, for a hybrid is like a mule, you "can't sometimes most generally tell" when he is going to kick. We have one of the Quinby smokers and would not part with it for twice its cost. Friend Cramer thinks so much of it, too, that he wants it when I am not using it.

Novice, I'd advise you to look out for that Lloyd Z. Jones. He is on his way to the Centennial and may stop in to see you, and just as likely as not will have some of those 80 cent queens in his pocket.

I would say to the friend who speaks of losing queens in introducing, that I can put in 999 out of 1000 queens and not lose *one* of them. But you must understand your business tho'.

Will. M. Kellogg.

Oneida, Ill., Sept. 5th, '76.

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I have hunted over Vol. 1 and watched Gleanings closely, and can find no description of how to make a smoker. If it is not *too old* to the old subscribers give some of us new hands a description, and also tell us how to bleach wax, if it is not a secret, and oblige,

Geo. S. Graff, Omaha, Neb., Aug. 21st, '76.

Just at present we are better satisfied with an ordinary corn popper for a smoker than anything else we have ever used. The square ones all made of wire are best; they only cost 25 cents, and all you have to do is to put in some chips and then a coal of fire and then swing all about your head until you have smoke enough. Stand this at such a side of the hive as to have the wind blow the smoke across the frames, and you can work along happily. If they show fight, just give them a couple of puffs with the breath while your smoker is held over the hive, and they will go down at once. The popper is better than the sauce pan, because it will not let any fire or sparks out, and because the ashes are easily shaken out as fast as they accumulate. You need not stoop to set it down, nor to take it up, for the wooden handle is just right to lean against the hive, convenient to your hand.

We have no secrets in the world from our readers, and trust never shall have; we are glad to be able to tell all we can learn. Wax bleaching by the sun, is a slow process, and will only pay where it is a business of itself. Bleaching by chemicals in our hands has proved a failure; if there is one among our readers, who can succeed with it, we should be glad to hear from him. Mr. E. Coble of Cornersville, Tenn., recently sent us about 50 lbs of wax to work up, that was very nearly as white as that from the wax bleachers. In answer to an inquiry he says that it was only wax from cappings without any bleaching whatever. Now recent experiments look very much as if yellow wax would answer every purpose of the white, and that after it is built out and capped, the comb honey is one and the same thing, especially if the wax be bright and clean. Will those who have had experience in the matter report?

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I raised three queens from an Italian mother. Two of them in stocks of bees covering not more than two Q. frames, hatched in July, are nice yellow queens. The other was raised in parent hive, strong colony, hatched in August, and is very dark. Query—Why the difference in color?

I am very much surprised at friend Heddon's letter. How a man of such intelligence and experience in bee-keeping can discard all the improvements made in bee-culture, and return to the old fogy style of keeping bees in boxes, is beyond my comprehension. His letter is dated July 5th. I suppose he had a real jolly time on the Centennial 4th, and on the following day was *somewhat* despondent, and sat down and wrote that letter. He wrote another remarkable letter on July 5th, '75. See Vol. III, No. 8. In that year the 4th, was celebrated on the 5th, I suppose on that occasion he was *brimful* of patriotism and had to give vent to his pent up imagination.

If my suppositions are wrong, will friend H. please tell why a box hive is better than a hive with movable frames, and other improvements. I am a beginner and willing to adopt the best way. If I am to be converted, facts, "chiels that winna ding," must be presented showing clearly that box hives are better than hives with movable frames, and *kindred nonsense. Hurry up!* give us proof, or own up like a man.

W. Girdwood.

Alleghany City, Pa. Aug. 21. 1876.

Queens raised in cool weather, are much inclined to be dark, but we cannot learn that they are on that account any the less valuable. The grand-daughters of an imported mother, are almost invariably much yellower than their mothers or grandmothers.

In regard to friend Heddon, a postscript just at hand says, "His tales are amusing—if they do not last too long—but not instructive." Now friend H. cannot you give a *report* of your system, very soon?

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I have been keeping bees 48 years, the first four years in North Wales. I kept them in straw hives and brimstone the bees to get the honey. I sold seven sovereigns worth of honey, wax and bees before I started for this country. After I came here I kept bees in box and gum hives and had not enough honey for my own use. About 12 years ago I read of the Langstroth movable comb hive. I sent for it, for his book on the Hive and Honey Bee, Quinby's book, King's Text Book, and many others on bee-keeping, and now I have plenty of honey, and have sold many 100 lbs. I have sold honey every year except the last. I have this year, of box honey 166 lbs. and 72 lbs. of extracted, and my neighbors with box and gum hives have hardly any for their own use. Two of my own neighbors have one movable comb hive each, and they have honey as much as I according to the number of hives. One of them, last winter, had 6 hives; 5 box and one movable comb. He lost all in the box hives. They will winter as well in movable comb as in box hives. I have had an experience of 12 years in that. If I had to go back to the box hive I would not keep bees on any account; there are so many advantages in the movable comb hive that no one can persuade me on that head. WILLIAM ROBERTS.

Vaughansville, Ohio, Sept. 9th, '76.

Please send me a copy of GLEANINGS. I am interested so far as this; a swarm came and settled on one of the chimnies of my *house last June* and we can not use the *chimney*, as they are *building and making honey inside of said chimney*. What *shall I do?*

D. C. WILLIAMSON, 273 Hudson St. N. Y. Sept. 11. '76.

Take out bricks enough at the point where they are located to enable you to cut out the combs, and transfer them as you would from a hollow tree. Set the hive on the roof of the house until they all find their new location, and after a few days when they have got all their combs secure, move them not less than two miles. When they have forgotten their old home—in three or four weeks—bring them home and put them where you wish. If this is too much trouble, put them where you wish when first transferred; but in this case a great many of them would probably go down the chimney and perish, after their first flight.

You are mistaken about ¼ inch being enough to allow for sagging of fdn. at the bottom of frames of *all depths*. You are probably correct with regard to the L. frame. My frames are the "Standard" and ¼ inch was allowed but I had to take out all the frames after they commenced to lengthen the cells and cut off ¼ or ½ inch more from bottom. They had reached the bottom of frame and still they sagged, producing bulging. E. KIMPTON.

Cedar Creek, N. J., Sept. 13th, '76.

Very likely you are right. In our L. frames we have left from ¼ to ½ inch, and have had no bulging, but it may be owing to our having in every case, put the fdn. between two old combs. If we can have pure wax, there is certainly no trouble in getting good combs in any weather.

I took 200 lbs. of wax to the wharf on Saturday to ship to you, but learning that I can get 28c gold in San Francisco, I conclude that it is better than 33c in Ohio with freight and 10 per cent discount on currency. I wish you had some of our pretty wax. I will expect GLEANINGS on the 10th with big reports of the honey yield in the States. My 127 colonies of last spring increased to 300 and yielded about ten tons of extracted honey, crediting all to the original stock. Most of the practical bee men have done about the same, although bee-keepers were surprised by the season being cut short a month earlier than usual.

So many are starting in the bee business here, which I am glad to see, yet the probability that they will all crowd into one place too much, gives me the mixed feeling of Robinson Crusoe, who longed for nothing so much as society, yet when he saw human foot prints in the sand, fearing they were cannibals, they became the greatest terror to him.

Immense quantities of honey have been stored up in San Francisco but the low price of 7 to 9c is causing it to go to all parts of the world and the price is going up. I have sold considerable here at 10c in gold.

We had a rain here last March, and expect a shower again next November. So you may know there is no mud. However there is some dust, yet there is honey in the flowers of the driest soil. R. WILKIN.

San Buena Ventura, Cal., Sept. 4th, '76.

Taste a young grub and some royal jelly, and see if they are not very much alike. I think you are more than half right. Read Prof. Varro's articles in *A. B. J.*, 1868, '69 and '70 on this subject. The Prof. died before he had got to the end of his subject.

T. G. McGAW, Monmouth, Ills., Sept. 2d, '76.

The above was sent to friend Klar, and refers to his theory that the royal jelly is composed of young larvæ cut up, etc. As the young grubs or larvæ are fed on royal jelly and nothing else, for the first few days, we do not think it strange that they taste of it. In this early stage of existence, they are little more than a thin envelope to contain the nutriment furnished them; in fact some of the transparent forms of microscopic animal life are so simple that they can be turned inside outward like a sack, and they will go on taking in food, and performing all their functions just as well one side out as the other. Is it then strange that small larvæ should taste of the food they are nourished by? Is it not due to the coarse food given them at a certain age that they become workers instead of queens?

Have you ever known bees to kill their queen a month after having accepted her? Our daughter of an imported queen that we got of Mr. Blakeslee last year, produces queens three-fourths of which produce three banded workers, but they are dark, and we thought we would like to have one swarm of yellow bees. Accordingly we got a queen of Mr. Nellis' Albino stock. She arrived on the 4th of July, was accepted on the 6th, and before July was out was filling her combs with brood the second time, but last Thursday we found her missing and the bees were building queen cells. Now I would give something to know what became of that queen. We did not kill her for we always replaced the comb so carefully, which she was on, that we are sure we did not hurt a hair of her head.

I would not give one good swarm of Italians for three swarms of blacks. During the time of scarcity, between white clover and basswood, there was a ten acre field of red clover near us that had been pastured and then let go for seed, on which the Italians worked, and stored quite an amount while the black bees were doing nothing. And now we have four acres of buckwheat in bloom. It seems to yield the most, early in the morning. The Italians are out before the blacks think of getting up, run over the buckwheat, then away to the red clover fields that are to be cut the second time, leaving the black bees to put in the day gathering up what remains of the buckwheat.

I have rode but one hobby a good while, got on before Novice got off; it is the exclusive use of the long Standard hive and the honey extractor. Think I shall keep on until it throws me off.

And now let me give you one word of advice. Don't for the world let Mr. James Heddon get you to experimenting with box hives and black bees. It would revolutionize things so, and old fogies would never get done crowing. I see you are already letting your bees do the swarming themselves, which Novice said somewhere in GLEANINGS "never happens without a loss both to the bees and their keeper."

In regard to comb fdn., we got some of Mr. Long, and we made a small set of dies ourselves, but really I believe we can get combs built almost as quickly without their use, and worker too, if we try. But there may be a difference in the amount of honey stored; still, don't you think there is a waste going on in the hive, if bees are not allowed to build comb when they are gathering honey nicely? Have patience, I am still your pupil. ILA MICHENER.

Low Banks, Ontario, Canada, Aug. 14th, '76.

Sometimes it is hard to account for the loss of queens, but we are inclined to think in your case, it was no fault of the bees, at least the bees of that hive. Are you sure no bees from any other hive got in by any chance or mistake? Queens sometimes die unexpectedly, but not often, for they generally show signs of failing and the bees have a new one at work before they have fairly given up. Theories seem sadly at fault with the fdn.; give one stock fdn. in every other frame, and another one nothing, and you will quickly see how much the fdn. is ahead.

I send you a plant in blossom, which is at present a great favorite with the bees. Please give us its true name. It commences blossoming the last of July and continues till the ground freezes. Bees work on it with a will. More so than on any other flower at this date. They are collecting large quantities of pollen from it. Tell us if it is a honey producing flower.

My bees have done splendidly this season. I commenced in July 1875, with one new swarm of Italians sent me as a present from Hon. Joshua Lake's apiary, North Jay, Maine. They sent out a swarm Aug. 18th, leaving the old stand in rather poor condition for wintering, the new swarm in Heddon's favorite box hive containing 1728 cubic inches, half full of comb and bees, with some honey. Fed on syrup and candy to supply the balance. Wintered in a dry cellar. Came out this spring, the old hive (Quinby's) weak. The new hive in good condition. Commenced feeding early and liberally on sugar syrup and continued till apple blossoms came. The result, they both grew strong and increased in bees rapidly. The old hive sent out two swarms, viz., June 28th, and July 10th. The other, four swarms, May 24th, June 1st, June 3d, and August 8th an unusually large swarm. The first new swarm has swarmed twice. Can you state another instance in the North where a first swarm sends out a second one? Have increased my two colonies to ten by natural swarming this season. Most of them well supplied with bees and heavy with honey. Now, friend Novice don't say that second and third swarms or even fourth swarms are not worth wintering.

The prospect now looks good for all. I owe in part, my success to the four Bee Journals of America, of which I have been a subscriber and constant reader the past year. JEREMY LAKE, North Easton, Mass.

We have had many reports this season of a new swarm swarming, and our experience with second, third, and fourth swarms is not discouraging at all, for every thing of the kind in our apiary, has filled up nicely for winter. As this season has been—at least with us—an exception, we presume it would be unwise to call this the rule.

I was just on the point of writing to you of a great discovery I had made of anointing queens with royal jelly when introducing. I see in an old number of GLEANINGS that this wonderful discovery has been made before.

You may put me down for a "Blasted Hopes" man, I guess. I expected to make $150,00 from my one hive this winter, but drought ruined my expectations as well as garden, flowers, pasture, etc., and though I have increased to three hives and one nucleus I am without honey for the table, having only about 6 lbs. altogether in three hives. But *next year* (only hope) I will have 200 lbs. per hive, so help me, Jupiter Pluvius! As it is, I have learned something. I have raised six queens, lost two, swapped two and introduced one other, all done safely.

Have been stung—well—150 times to draw it mildly. Wear veil *and gloves*, would not go without them for anything; every time I do, I get stung.

Finally I have made some comb fdn., (see sample enclosed), from plaster casts made from your fdn. There is only one great trouble with it, and that is dirty wax. There is only one trouble with *your* fdn., and that is that I can't get a queen to lay in it. If I might suggest an improvement, the lozenge plates are too thick. If you can put it in the walls, all right. I have invented a way of making sheets of wax, *not patented*. I roll them through a clothes wringer which has been warmed in warm water.

Since the cool weather, several complaints have come that queens will not use the fdn., but none before. Now in our hives we think they use them just as well as they do natural comb, but we may be mistaken. It is rather difficult to get sheets a foot wide that are very thin at the bases, but we can roll them 4 or 6 inches in width, as thin as may be desired.

Has the difference between drone eggs and worker eggs been proved? If so, where can I find proof?

See page 124, Vol. I, *A. B. J.* Besides, eggs have been repeatedly removed from *worker* cells and placed in *drone* and they always produce *workers*.

Has the nature of royal jelly been proved? Where can I find such proof?

Royal jelly has been many times analyzed, but although a chemist can give you the exact composition of many organic substances, it is a pretty hard matter to decide what properties these substances may possess. See page 36 same Vol. as above.

Didn't the bees in hives where you put a section box from a lively hive as per your "discovery" sting those introduced? RICHARD FERRIS.

Belleville, N. J., Sept. 12th, '76.

To be sure they did not, and we have never known bees thus introduced, when honey was coming in plentifully, to be molested.

I started last spring with 20 stocks. Have now 60 good ones, all worker comb. I think I did well for a novice. I have 500 lbs. extracted and 200 comb honey, and more in the hive. DANIEL WURTH.

Falmouth, Indiana, Aug. 19th, 1876.

Bees are very populous and rich in stores. Have increased from 13 to 42, principally by natural swarming. MRS. L. HARRISON, Peoria, Ills., Sept. 8, '76.

Referring to *India rubber gloves*, in your July No., (page 161) you ask the experience of your readers. I give mine for what it is worth. Premising that six months ago, I was thoroughly ignorant of the habits of bees, I would state that, nevertheless, since then I have handled them about twice a week. Until recently I have kept only the common or black bee, and a more irascible, spiteful, termagant set, 'twould be hard to find. In dealing with these, the rubber gloves are indispensable and have saved me many a sting. Every now and then they will even puncture the rubber through and through and reach the hand within, but the pain is much mitigated as only the mere point of the sting enters the flesh. I bought my gloves for $1,75, of Muth, Cincinnati. M. W. Chapman.

Mayhew Station, Miss., Sept. 2d, '76.

Well we certainly have got *one* favorable report after all, but as our friend is a "bee-ist" of only six months standing, how are we to know he will not in six months more, say he was mistaken, and that he would have been stung less without the gloves than with them? Now friend C., and many other friends, you can depend upon it when your bees will sting your hands, they had better be let alone. If you give them a puff of smoke when you first turn up the corner of the quilt, and more to keep them down when they start up, you certainly will not have your hands stung. We open dozens of hives, and remove hundreds of section frames without a sting on the hands unless we pinch a bee carelessly; and when we do this, we hope they *will* sting to remind us to be more careful. If the use of veil and gloves, enables us to tread on their rights with impunity, we certainly would not advise them. Your work with your bees should be as peaceful and quiet, as that among your strawberry plants; and with the corn popper smoker, you can have it so at almost any season.

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You are correct. Little foot power buzz saw can cut section boxes almost as bright and true as a new coin. But it utterly refuses to do so for 1c per section. *Casus belli*—Don't like to travel on the road leading to the poorhouse! Your sections, as I understand, leave a worse than useless opening in the sides of each, just equal to the center tenon or tongue of the top and bottom. I therefore think it better to set the gauge so as to leave no center tenon to speak of. Besides, we use only two of the grooves in the side pieces, the other two being of the same use as the third wheel to a cart. I therefore don't cut them. D. P. Lane, Koshkonong, Wis., Sept. 5th, '76.

Where section boxes are made with a single saw, it certainly would save time to make them as you propose, but with our four saws on a mandrel, we find it cheaper to make only one piece, and have all alike. Besides, we think the teeth on the projecting corners, rather ornamental.

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EDITOR GLEANINGS:—When the inch and a half (!) of honey between lower and upper story had been disposed of, did you proceed to "cut things loose" with something equivalent to a "butcher knife?" And did you not find the combs "heavy as iron wedges?" (See Gleanings for November, 1875.) C. Linswik.

You seem to have so very vivid an idea of the whole matter friend C., that we cannot help thinking you may have had some similar experience. The very thick combs that we secured by the gradual spreading process, seemed like a string of iron wedges, and for the first time we found the metal corners inconveniently sharp on our fingers. We shall try to not let our bees—or business—get ahead of us thus, another season. When honey is all sealed up, it is a hindrance in the hive and should be removed; besides the injury it sustains in appearance, especially if it is to be sold as comb honey.

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Comb fdn. received in prime condition. Bees have learned what to do with it and work it up rapidly. I think its use would double the yield of comb honey from any hive.

R. Ferris, Belleville, N. J., Aug. 28th, '76.

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When I wrote you before, I had two swarms of Italians in frame hives. About the first of June, just when my bees needed most attention, my husband had his right leg badly crushed by a horse; of course he required my whole attention. As I could do very little with the bees, I put on upper stories and let them go three or four days, I then looked at them and found they were building their comb in every direction. I took off the upper stories, cut out the comb, fastened some on the frames as best I could and put them on again. It took some courage and patience, for the weather was very warm and the bees particularly cross; but I wiped off the sweat, pulled out the stings and kept on. I strained the honey and got about 8 lbs. Well, the second time they did no better than the first, and though they had plenty of room to work, one Sunday, one of them sent out a swarm. So I took off the upper stories and commenced artificial swarming. I might have done it before but I had very little time and less courage. I had put my hand to the plow and I was not going to turn back; besides, my husband had strongly advised me not to buy them. Well, I won't tell you all my blunders and mistakes. I now have eight nice stocks from the two. When you consider I have had my husband to take care of my house work to do; the care of milk from two cow and last but not least, my bees, you may know I have had very little time to spare. I have also had the care of the farm with only help from my two boys, one eleven the other fourteen. The older one made the hives for me, all but three. So like Barnaby's raven, I shall "never say die." My husband is around now on crutches and thinks of making bee culture a business, as he will probably be crippled for life. No doubt you are tired of my long letter, but as I told you of my beginning, I thought I would let you know how I had succeeded in my new enterprise.

Mrs. S. P. Hubbard.

Neilsville, Wis., Sept. 5th, 1876.

Had you given your bees a hint of what was wanted in the shape of a few finished combs, or even one or two from below, they would have done nice work. We seldom have letters too long from your sex.

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Our bees here appear to be well aware that it's the Centennial, being very independent and cross, and continuing to swarm and go to Centennidelphia or to parts unknown till near the last of August. But they left good stores behind them, I fear for their future.

Stephen Young, Mechanicsville, Iowa, Sept. 11. '76.

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Will it do to make bee hives of red cedar, or in other words will bees work well in hives made of red cedar? V. P. Townsend.

Worcester, Mass., Sept. 9th, 1876.

We think it makes little difference to the bees what the wood is, and have never heard any objection to cedar.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," have a friendly chat and feel "at home."]

## CHAPTER XXIX.

A FEW days ago I took a ramble through the woods and fields to see a piece of buckwheat that was just in full bloom, a mile and a half from our apiary. That our bees might be kept busy during the fall months, I made an offer in our weekly paper of $1.00 per acre to all who would sow buckwheat within the above named distance. It seems but three acres were sown in response to the offer, but if the amount of buckwheat honey that is now found in the section boxes be any guide, we might have offered a much larger amount, and still have been sure of a good investment. This was sown as early as June I believe, and if we could depend on the same amount of honey per acre, every season, I should think $25.00 invested in that way would be a very safe undertaking. The one drawback, is that the dark honey may depreciate the value of such honey as might be gathered from red clover or other sources that give a lighter colored more marketable honey. Now, although it may never pay in dollars and cents to raise crops exclusively for the honey, we feel pretty certain it will pay for the apiarist to offer some inducement to the farmers about him, in the shape of one or two dollars per acre for all the rape, buckwheat, and perhaps alsike that they will raise.

The bees were at work on the buckwheat, which stood full as high as my head, (it was sowed on a nicely prepared cornfield after the corn had failed,) to my full satisfaction, and all that remained now was to see if the dark honey came from any other source. We passed fields white with the *Eupatorium* family—boneset, thoroughwort, and white snake root—without finding a bee on them; a few were found on the wild touch-me-nots, and more whenever I passed a field of red clover; and now I have come to the incident that was to furnish me with the text for this chapter. In passing through a dense piece of woods, I passed a very pretty, sleek looking horse standing in the shade, solitary and alone, doing nothing more than to stamp and whisk at the troublesome flies. As I was bent only, at this time, on the study of nature, I greeted my four-footed friend with words of kindness and sympathy, and soon had him at my side wherever I went, nibbling at every flower I tried to examine, and in his eagerness to keep constantly at my side, exposing my slippered feet to great danger of being trodden on by his heavy hoofs. He would eat grass contentedly so long as I remained in one spot, but when I moved he was at my heels, and as he must smell of the very bees and flowers that I tried to examine, wondering seemingly, if I loved them just as he did choice wisps of grass, I began to think I should have to study horses and not bees, unless I chose another field. We bade each other a reluctant adieu. Presuming am I? Well it is true he did not say he was sorry, except by actions and looks, but as I have many times during the day, felt an involuntary longing to see him once more, to feel his soft nose thrust inquiringly over my shoulder, and even to have him give a mischievious nip at my coat sleeve when I seemed to disregard his presence, I could not help wondering if he too, did not think of his playmate of the morning. Do not horses remember? Aye, but they do. Let a colt stand hitched but a few minutes at a post, and in passing the spot months afterward, he will show very clearly that he remembers the circumstance. When first taken from his native fields he is so sensitive to impressions, and so ready to fall into habits taken from his new surroundings, that I have sometimes likened them to soft wax, preserving a faithful representation of every place, circumstance and event of the day.

Now if we—both horses and humanity—are so prone to be molded and influenced by those with whom we associate, how important is it that we either be careful what those are, or guard ourselves against their influence. I occasionally have a visitor who makes me feel lonely after he has left and whose influence remains long after he has gone. Now such may be the case, even if he is a bad man, and it sometimes takes more labor to eradicate the seeds of evil that have been sown, than had they been so much good. The society of those whom we know to be bad, is sometimes very pleasant, and as we get better acquainted with them, we are often inclined to think the things we thought objectionable, not so very bad after all, and to question whether they *are* wrong at all or not. Taken alone by themselves, and under some circumstances, almost all the great evils that afflict humanity, may be voted harmless; and many times we can only judge of them by the results that in time follow. Pleasant friends have defended the taking of a glass of beer occasionally, and I have agreed with them, in deciding that there was certainly no harm in it. Others have spoken of card playing at home with brothers and sisters until it seemed hard to condemn anything so harmless. Others argue that the Sabbath should be a day that people should all love, and that it should be made pleasant and cheerful, by each one enjoying it after his own fashion; that a quiet game of croquet was no worse on that day than at many other times, and that much harm was done by those who tried to be so very strict. Again, a wife will defend her husband in profane swearing by saying that he did it in such a funny good natured way there could certainly be no harm in it. Many will stoutly defend the custom of using deception when convenience demands it; that is, of deceiving just a little in harmless matters, and the way in which they put it, looks as if there was really nothing to make a fuss about.

Now all these things are very little items, not worth making a fuss about, some will say, but suppose you were in the habit of doing all these, would you blame people for thinking you were anything but a fit associate for the youth about you? Suppose you wished a young man to learn a trade, or as clerk in a store, or as teacher for your children, will those of my readers who may be inclined to think I am notional, considered the effect that these simple habits might have in deciding your choice. It is possible that one may go to extremes on temperance, but did you ever hear of a person being too careful in regard to using by-words and slang? Did any one ever get on a hobby of truthfulness, and carry it to too great an extreme? Was ever one's usefulness or value to community, marred by his being too careful to avoid engaging in games of skill or chance? It is not my purpose to discuss croquet, but what would be the verdict between two young men, one of whom spends his moments of out-door recreation with some hives of bees, and the other employs them playing some game? As nearly as I can determine, the enjoyment is keener, and more refreshing, with the bees, than with the other. Perhaps it should be added that even with the bees there may be an extreme to be avoided, as with every thing else, and this extreme, is reached when the young man wishes to borrow money to go into business more largely, before his bees have earned it. The charm of any of these rural pastimes is that they be self sustaining, aside from the time given them. So long as we are in the company of the bees and horses, we are at least sure of learning no bad habits, and I am sorry to say such is seldom the case in playing games. I dearly love to be in the company of those who are doing a thriving and healthy business without getting into debt; who use no profane or obscene language; who respect equally the truth and the Sabbath; who are happy and contented with the food that is raised about their own homes and who *crave* no beverage stronger than milk. Milk and honey! The product of the toil and labor of your own home and its inmates; harmless and healthful, it comes a gift direct from that Great Father who knows far better than we, what is for our own good, and as a reward of diligence and faithful service. Be kind not only to your fellows, but also to those dumb friends, His creatures, that are all about your pathway; make their lives pleasant and happy, and you will by no means lose your reward.

Should we decide to have no associates except those who were entirely free from objectionable traits, we would doubtless lead rather a solitary life, for it seems that humanity as we find it, presents no perfect specimens. Again, the temptations that beset one individual, have no charm for the next one at all, and the fact that I neither smoke nor chew, does not show that I have exercised any self control in avoiding such vices; yet where we see one who has repeatedly tried to break off, enduring the ordeal, we may see that he is really massing all his energies to escape from slavery and be a free man once more. Men who have conquered bad habits, or unruly passions, and who have turned all their energies toward helping their fellows to get on their feet and do likewise, may be much better companions for our youth than those who have never sinned because they have never had an inclination to. When I hear a person boasting that they have never read a novel in their lives, I begin to fear they may not have read anything. The heroes, and the ones whom I am sure God smiles on approvingly, are the active "go ahead" people who are all about among humanity, full of life and engaged in so many of the stirring events of the day that difficult and different paths are diverging at almost every step, and who are yet ready to drop the dearest project on earth, the very minute they discover it is leading to wrong. If we can join in with the world, catch their enthusiasm, feel vividly that we are one among the many, and burn to do our part and do it well, yet study to keep ourselves free from the many vices that we shall see all about us, I feel it is far better than to stand aloof and say they are all sinners on the highway to destruction, and that we cannot have anything to do with or in common with them.

I have just been reading of a coat of mail designed for firemen, that will enable them to pass safely through the fiercest conflagration without being harmed in the least. To enable them to bid defiance to these elements, a fresh supply of both air and water is sent through proper tubes constantly, and so well did the device succeed at the experimental trial, that a fireman clothed in his armor walked all through an immense bonfire and finally sat down in the midst of it amid the cheers of spectators who could not come within several rods of him. Now this is exactly my idea of the way in which we should be daily fortified against the influence of the evil associates with whom we are daily obliged to come in contact, if we mix with the busy throng of workers. An earnest petition before going forth in the morning, and frequent calls for a fresh supply of His Spirit during the day, at times when the fires burn hottest, will I verily believe, enable us to pass unharmed amid the worst scenes of modern corruption, that our country affords, if our motive in going into such places be always a good one.

When our boy was about 10 years old, he was overheard uttering something that sounded strangely like an oath, and when questioned by his mother, owned up that he had learned to swear, by hearing so much of it all about him among his playmates. "Mother, almost all of them swear when they are at play, and I do it before I think." Now this was a serious matter indeed, and the question at once came up as to whether it were well to allow him to go among such playmates at all; but if he attended school, what could be done? He must mix with the rest, more or less. On asking him if he were willing his father should be told, he pointed out the course to be taken himself. "Not just yet mother", said he "but wait a little, until I have broken myself of it, and then you may tell him." With his mother's help, (and who can help like a mother at such a time?) he did break himself, and not only that, he reproved others, and instead of being injured by going among bad associates, he set before *them* a better example. Now mind you, this is no easy task, especially for the mother, and woe betide her if she allows other tasks to take the place of this work, for unless the child's young mind is fortified with daily cheering and encouraging words, welcoming smiles on his return from school, and a faithful sitting down by his side and questioning of the events of the day, he is almost sure to faint and get discouraged. Oh ye mothers, do you know how much devolves on you? Do you know that by your strong love you can send these little ones into the world clad in an armor that is almost proof against all the allurements of Satan, if you only will take the trouble? Are there any among my readers who feel that they have not that hold on their children they should have? Go this minute, and in your closet ask of your Heavenly Father the very strength to go through with your daily duties, that you should be able to give the little ones to go through with theirs, and your path will very soon be pointed out to you.

## Notes and Queries.

A VERY good way for box hive men or any other having a surplus of drones, is to exchange places with a weak stock, about 10 o'clock A. M. In 48 hours the hive will be clear of drones. All will be dead except the few that find their way back to the old stock, and both hives will be benefited. If Mr. J. S. Hill has any pure Italian bees, and will take the trouble to measure combs built, he will find the worker comb to average very nearly 4½ cells to the inch, the smallest being 14 to 3 inches, and the drone comb about 3½, the smallest being 15 cells to 4 inches. At least that is the way mine have built this summer.

C. T. SMITH, Trenton, Ills.

[Exchanging places with colonies is very apt to lead to fighting, and sometimes to the loss of queens, unless honey is coming in rapidly; and even then it is so unsafe, as to have been mostly abandoned. Our measurements of comb built by the Italians, agree very nearly with the above, but if it should transpire that 5 cells to the inch are more desirable, as the machine that we sold to Perrine makes, we of course will furnish such fdn., meanwhile we would like reports from those who have used both. Friend Smith gives several other experiments, at length, showing that comb answers equally well any side up, in transferring; that brood combs 16 years old are as good as any; and that queenless stocks very seldom store comb honey before the young queen begins to lay. All of the above points have many corroborations from others.]

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My report for that hive is still good or at least I think so. For 60 days ending Sept. 10th, the yield was 308 lbs. of good extracted honey with a good prospect of their still getting plenty for winter. I told them I would let them have the balance; wasn't it clever? We have had a splendid season here for bees, and still good. I hope to be able to make a better report next year.

J. D. C. MCFARLAND, Greenwood, Mo. Sept. 15th, '76.

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I found that some swarms had little brood, and I thought it necessary to extract some honey. Would three frames give room enough for them to raise bees for winter? I started with 12 swarms and built up to 22. A swarm came out the 28th, of Aug. and has its hive nearly filled with comb. JOHN KRIPPNER.

Oakland, Wis. Sept. 12th, 1876.

[We have had little experience with too much honey in the fall, but should think three frames ample room after honey has ceased.]

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You never publish the proceedings of Bee meetings but I will try to give you just the "GLEANINGS." The South Western Ohio Bee-Keepers' Association met in Lebanon, Sept. 9th, 1876. and will meet again Feb. 14th, 1877 at the same place. A plant known as "Carpenter's Square" was known by several to be a very good honey plant.—The honey extractor was thought to be a good thing.—Brimstone was the best thing for getting worms out of box honey, the taste would leave the honey in course of time.—The best protection for winter was some material over the bees that would permit the moisture to pass off, and still retain the heat. Out-door wintering was thought to be the best for this climate.—Bees bred in all months of the year except December. There was often more than one fertile worker laying eggs in the hive at once, one member having the frames out of a hive, one at a time, and by careful watching had caught three bees on one frame in the act of laying eggs, and had caught ten bees in one hive; with the aid of a glass he had counted 40 eggs in one cell. W. S. BOYD.

Bethany, Ohio, Sept. 15th, 1876.

[Condense reports as above, and we can always find room for them.]

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I put a man on the road to-day with honey, and from his success, reports of sales and promises, I think a splendid trade could be worked up in any portion of the country. J. H. MARTIN, Hartford, N. Y.

[That is just what all say who have tried it. Load your wagon with an assortment of honey in bulk, in neatly labeled jars, and in section frames, and it will be a queer community indeed if you can not work up a fine trade.]

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The plant sent you by Mr. J. Lake, Easton, Mass., (page 251) which he says blooms from August 1st till frost, is named Leontodon autumnale, or fall dandelion. It belongs to the compositae order, same as aster, daisy, etc., and was introduced from Europe. It is not found here. Whether the bees can reach the honey in the long tube or corolla I know not: no doubt they yield honey. By watching to see if they insert their tongues Mr. L. may determine.

Yesterday I went to Jackson, bloom is everywhere. We are just getting a grand yield of the most excellent honey, thanks to fall bloom.

A. J. COOK, Lansing, Mich., Sept. 9th, 1876.

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My bees have increased to 185, all in good condition for winter. We have suffered very much from the drouth; stocks that did not swarm did very well. My greatest yield from one stock (Italians) was 329 lbs. A little more than one-third comb and the balance extracted; this was done without any feeding. They have plenty for winter.

W. H. BALCH, Oran, N. Y.

[But you do not say how many you had to start with, friend B. The yield from one colony is very good, even if it was all extracted.]

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If no precaution is taken, bees will work much sooner in side boxes than in top, but when the combs are built they will store honey twice as fast on top as at the sides. Hence my advice to have combs built at the sides. We do not think much of the tiering up operation although we have practiced it to some extent for some years. Certainly our new hive is made for side boxes, 16 at the sides, 14 on top; 30 in all, or any number less than that to accommodate a small swarm. We never sold any box honey except by gross weight; that is, box, glass, honey and all.

G. M. DOOLITTLE, Borodino, N. Y., Sept. 22d, '76.

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I do not import queens from Italy for sale, as I find honey to pay better in this section of the country than queen selling, though don't infer that I will not go into it also. But I will offer to those having imported mothers, to exchange dollar queens in the spring, as I am opposed to in and in breeding and wish those queens as drone layers. I have been trying such queens so far, from Oatman & Co., Dr. Brown, J. H. Nellis & Bro's, and every one received has proven to be purely fertilized. This is a course that I will follow every season so as to have drone layers from different persons, and thus have my queens fertilized by drones from different apiaries. I think this plan the best. PAUL VIALLON.

Bayou Goula, La. Sept. 5th, 1876.

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Gloves? Yes they are an absolute neccessity with me. My bees easily enough subdued in June, are almost unmanageable in August. Rubber boots, veil and gloves are only a partial protection. I make it a rule never to buy what I can easily make. I purchased a yard of thin, tightly woven 30c. cotton goods, made a pair of gloves which reach nearly to the elbows and applied two or three coats of rubber (pure rubber dissolved in spirits of turpentine or better, bi-sulphide of carbon). The bees seldom prick through them and then only slightly.

My 75c. extractor made last winter gives entire satisfaction, I prefer it to the cylinder extractor for straining small irregular pieces of comb. Tell your old fashioned bee-keepers that an extractor of some kind is indispensable to every apiary. A piece of comb from an inch to a foot square can be relieved of its honey in a nicer, quicker and cleaner way with an extractor, than by the old way of crushing the comb, while the pieces of comb saved are worth more than the honey. NO NAME.

[Now friend——you are certainly misunderstanding your bees; we would as soon think of getting a cast iron armor to prevent our horses and cattle from kicking and hooking us, as to think of barricading against the bees in that way. What would you think of a farmer who went among his stock in that shape. Come and see us work among our 91 colonies, and see if you think we need such protection, at any month in the year. Tell us more about the 75c. extractor.]

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I have of your goods 100 L. frames sent by mistake for Standard. Charges by express $2,50. Subject to your order.

GEO. P. MCLEAN, Rocky Spring, Miss.

[To save the express charges we will sell the 100 frames for $4,50; send us $2,00, and the $2,50 to friend McLean.]

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I am not pleased with those tin cornered Langstroth frames (150), which you sent me March 16th, 1874. Have used only a part of them, and these will be vacated, soon; those that are not injured (about 120), will be sold, if any one wants them, otherwise, they will be offered as incense to experience. They are *too* movable, for box honey operations. As I do not recommend these frames to my neighbors, it is not likely any one will buy them, here. If you *really* think such frames are suitable to *any* one, you may sell the above for me, and at whatever price you please. P. MOYER, Sharpsville, Pa.

[That is right, speak out, and don't be afraid of hurting our feelings. As this is the first complaint of the kind we have ever had, we must think our friend a little peculiar. As we have sold more of these frames this season than ever before, we trust there will be plenty who will take the frames off his hands without much loss. On some accounts we would prefer a closed end Q. frame, but every time we undertake to handle them, we conclude that it is quite out of the question for *us* to think of any thing but the metal corners. We are so used to picking any frame we wish right out of the middle of any hive without the aid of screw driver or handspike, that we fear we shall never submit to any slower process. We find no trouble at all in using such frames for box honey.]

IT seems some of the friends do not know water will not run out of our 10c feeders when inverted. Fill a pepper box with honey or water, turn it over, and you have the idea.

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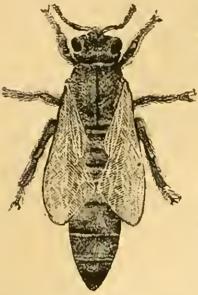

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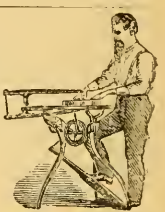

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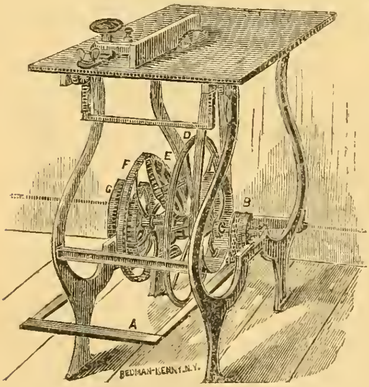

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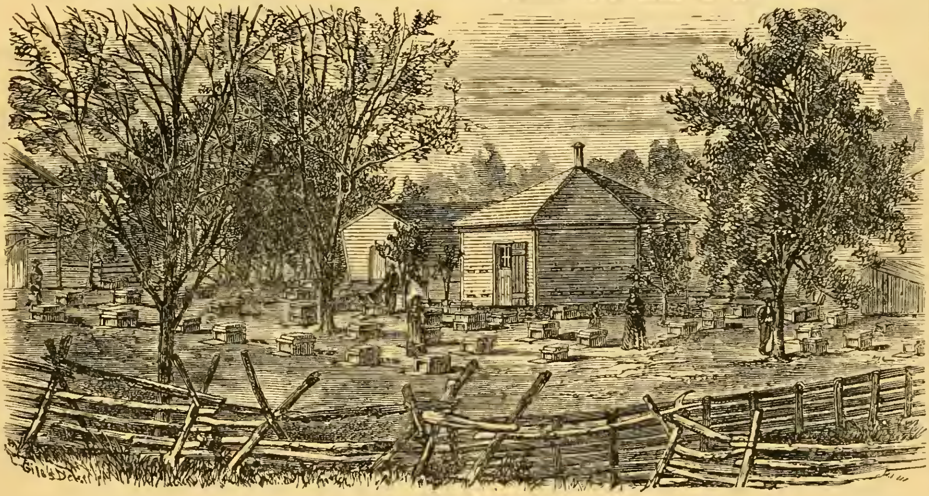
# GLEANINGS IN BEE CULTURE

PUBLISHED MONTHLY, AT MEDINA, OHIO,
BY A. I. ROOT.

Vol. IV November, 1876. No. 11



## Friend Rice's House Apiary.

It was a pleasant day in Oct. when we—the artist, Mr. Stanhope and myself—drove up just by the rail fence you see in the foreground, and took a peep at the surroundings as you see them above. Friend Rice was found busily engaged making winter passages for the bees, which operation he performed with a "sharp stick," and we noted that he got along with it very fast. We soon went into the house apiary, and after we had noted the tempting displays of comb honey, we were real glad we came to see him. In the centre of the room we found large tin tanks of both Linn and Clover honey, and as we never like to waste any time we dipped out the honey from first one can and then the other, while we talked "bees." You msut know that friend R. gets all his comb honey in small sections fitted into his large frames, and the sight of these cakes of honey right before the glass division boards clear round the room, is pretty, we assure you. May Mrs. R. never lose her genial smile, nor he the robust strength that enables him to carry those heavy hives out of the cellar and back, whenever a summery day occurs in midwinter; and when he gets old, may he have an easy chair in the house apiary, and find it (*the House Apiary*) a complete success.

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THIS 27th day of Oct., we find we have 1810 sudscribers. What a multitude of bee friends. May we be enabled to grow in wisdom correspondingly.

## IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place o those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

| | | |
|---|---|---|
| | Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's .. '76), tested queen from imported mother, safe arrival guaranteed | $15 00 |
| | The same in old style L. hive with portico, etc | 12 00 |
| | The same with hybrid queen | 10,00 |
| | The same not provisioned for winter | 7,00 |

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

| | | |
|---|---|---|
| 0 | Binder, Emerson's, for GLEANINGS | 50, 60, 75 |
| 4 | Boxes, section with comb guides | 02 |
| | Balances, spring, for suspended hive (60 lbs) | 8,00 |
| 10 | Blocks, iron, for frame making | 15 |
| | Barrels for honey, $2,50, waxed and painted | $4,00 |

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

| | | |
|---|---|---|
| 0 | Buzz-ssws, extra, 6 in. 1,50; 7 *in.*, 1.75; 8 inch | 2 00 |
| | Comb Foundation Machines complete | 125 00 |
| 20 | Candy for bees, can be fed at any season, per lb. | 15 |
| 20 | Corners, metal. per hundred | 1 00 |
| 25 | " " top only | 1 25 |
| 20 | " " bottom, per hundred | 75 |

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

Chaff cushions for wintering, and for covering honey boxes in summer, These are made 16x20x6, but can easily be pressed into a much smaller cap or upper story, The chaff used is clean, soft and free from dust.

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|---|---|---|
| 60 | Each | 20 |
| 9 | The same all ready for the chaff | 15 |

As we purchase our cloth at wholesale, this fs perhaps as cheap as you can make them.

| | | |
|---|---|---|
| | Combs, empty worker in metal cornered L. frames. | 50 |
| 10 | Clasps for transferring, package of 100 | 25 |
| 0 | Cards, queen registering, per doz | 10 |
| 2 | Cages " | 10 |
| 2 | Cheese cloth, for strainers, per yard | 10 |
| 12 | Duck, for feeding and covering the frames—bees do not bite it—per yd. (29 inches wide) | 20 |
| | Extractors | $8 50 to 10 00 |
| | " inside and gearing | 5 00 |
| | " wax | 3 50 |
| 4 | Frames with Metal Corners | 06 |
| 7 | Feeders. 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple | 10 |
| 25 | The same, 2 qts, to be used in upper story | 50 |
| 5 | " Sample Rabbet and Clasps | 10 |
| 10 | " Closed end Quinby, nailed | 05 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | " present " | 1 00 |
| 40 | Gearing for Extractor | 1 50 |
| 20 | Gates, Honey, for Extractors | 50 |

THE SIMPLICITY HIVE

One story Langs'h without frames or bsttom $1 00

The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express $2 25.

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| | | |
|---|---|---|
| | CHAFF HIVE FOR OUT DOOR WINTERING. 10 frames below, and 14 frames or 88 section boxes above, well painted and finished complete | $5 00 |

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

| | | |
|---|---|---|
| | One story Quinby hive, 10 *nailed* frames, division board and quilt, complete except surplus receptacles | $2 00 |
| | The same with two story 20 frames | 3 00 |

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25 | Honey, Clover per lb. 16c., Basswood, 15c. By the barrel 2c. less and waxed and painted barrel included.

Honey in section frames or fancy glass boxes, 25c. gross.

| | | |
|---|---|---|
| 0 | Knives, Honey | 1 00 |
| 0 | Labels, Honey per 1000 | 3 25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp, Nursery | 5 00 |
| 0 | Larvae, for queen rearing, from June to Sept. | 25 |
| 15 | Miscroscope. Compound | 3 00 |
| 0 | Prepared objects for above, such as bee's wings, sting, eye, foot, etc., each | 25 |
| 0 | Medley of Bee-Keepers' Photo's, (150 Photo's) | 1 00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | " " Double lens | 1 00 |
| | Muslin, Indian head, for quilts and cushions per yard | 10 |
| | Parrafine, for waxing barrels, per pound | 20 |
| 0 | Photo. of House Apiary | 25 |
| 06 | Quilts | 25 |
| 2 | Rabbets, Metal per foot | 02 |
| 3 | Sheets of duck to keep the bees from soiling or eating the cushions | 10 |
| 0 | Scissors, for clipping queen's wings | 40 |
| 15 | Seed, Alsike Clover, *raised near us*, per lb. | 35 |
| 20 | " Summer Rape. Sow in June and July. | 15 |
| 0 | " Chinese Mustard, per oz. | 25 |
| 10 | Quinby Smoker | 1 50 |
| 2 | Tacks, Galvanized | 10 |
| 3 | Thermometers | 40 |
| 1½ | Universal Section Boxes in the flat, each | 01 |
| | Universal case of 30 boxes, just right for U. hives or any L. hive, and can be fitted, to *any* hive | 75 |
| 0 | Veils, Bee, with face of Brussels net, (silk) | 75 |
| 0 | The same, all of tarletan (almost as good) | 50 |
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| | " " Queen Cages | 15 |

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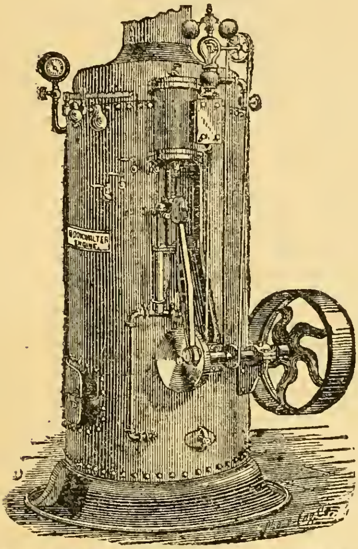

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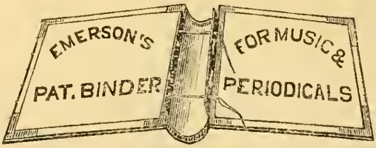

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The above are good, but are all far behind the times.

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# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,**
*Publisher and Proprietor,*
**Medina, O.**

**Published Monthly.**
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Vol. IV. NOVEMBER 1, 1876. No. 11

## CALIFORNIA.

SEVEN months, steady pull with the bees, during which time one scarcely gets time to breathe, much less to write, is now followed by the end of the season and a few day's rest preparatory to getting ready for another year's work.

I began January 1st with an even hundred stands of bees. I worked 92 of them for box honey, extracting only before the season for surplus honey began. The others I worked exclusively for increase, extracting only as the necessities of giving the young queens room to lay, required.

My first two natural swarms came off February 23d. Then followed three weeks of cold damp weather, when, on the 15th of March swarming began again and was kept up for a month. Some days I had 12, 14, and one day 16 swarms came off, until at the end, I found the increase to be 150 good strong swarms.

The 8, I began to divide about the 1st of April. These now number *sixty-eight* good strong stocks, fully supplied with honey for the rest of the year. From the 8 and their increase, I extracted 971 lbs. of honey. From the 92 stands, I extracted a little over 5000 lbs., (all with your old extractor) and have shipped 166 cases of comb honey, each case holding about 60 lbs., or 10,000 lbs., making a trifle over 14000 lbs. in all. or 140 lbs. to each original stock. I am now getting ready to go to work at hive and section box making for 300 stands for next year. All this is the most confining, hardest kind of *work*.

Your extractor bids fair to go through twice the service it has had so far. I have never yet had to stop it a moment nor spend a cent for repairs, but it is not just what we want with our thick honey. Here, we need a tank holding one-half barrel right under the machine, into which the honey may pass instantly out of the way, for the gate is too small to carry off the honey. One can uncap and extract three times as fast as the honey will run off. I have had two large tanks made out of $1\frac{3}{4}$ inch pine, each holding 120 gallons, one for white and the other for dark honey. The honey is drawn from the extractor, strained into the large tanks, where it remains to settle, and when perfectly clear, is drawn off into barrels, each holding about 280 lbs. net, which is the size we use.

Your honey knife has done all my uncapping, but that too needs to be made differently. It is *too thin*, the point having a tendency to go into the comb. If they were thicker in the center, or curved as you now propose making them, they would probably do the work. So many bee-keepers saw your machine and knife last year that you have had many orders for the knives, but freights are against rapid sale of your extractors. Extractors are made in San Diego, of galvanized iron, with a tub underneath, into which the honey runs out of the way and is drawn off at pleasure. The mania for extracting honey in this county was at its height in April, when nearly every man with a dozen stands of bees, got one, expecting to get a boat load from each hive. A few got the machines without any knife and in trying to throw out the honey without uncapping, succeeded admirably in throwing out comb and all. Then too, many took out honey that had not ripened, and spoiled a good market. A San Francisco exporting firm, had an agent in San Diego to buy 100 tons at 9½ cts., but when this raw stuff soured on their hands before it had even been shipped to England, the orders were countermanded and the price fell to 5c and even less. Comb honey has had no market value so far. The best price offered in San Diego two weeks ago being 6c.

Now these prices, or even double, may strike you as rather low; in fact *we* think if we have to sell in such a market, we had better get out of the country before starvation claims us. It is pretty hard, after working until the last bit of strength seems drawn away, to be insulted with such beggarly offers for your labor. An association has been formed and it is hoped it may so get into working order by another year as to systematize the sale of our crops.

And now, a word about bees in this country. So far I am unable to see any difference in their habits and instincts. They all get the swarming fever about the same time, and are sure to cluster in one great mass if they issue near the same time. Just about as many young queens get lost in fertilizing and about the same proportion of old queens die, get superseded, or turn drone layers, and quite as many fertile workers bother us. By the way, did you ever see one? I did ten days ago, saw it with its body down in a drone cell just like a queen—laying—but she never drew out that body to try it again. Since then that hive has let a queen cell hatch and bids fair to come out all right.

I have had eight large swarms light in one mass—forming a cluster as large as a barrel. Then *such* a time to get them hived. First provide yourself with as many empty hives as you think you will want and as many queen cages. Then, as all our swarms cluster on low bushes and rest on the ground, run your hand among them until you find a *lump*, which you draw out and it proves to be a hugged queen—cage—but put her aside, and continue this until you have one for each hive. Then shovel bees enough into each hive for a good stock, shut it up, with ventilators, and so on with all the hives; about sunset release the queens, by changing the stopper for a piece of new comb filled with honey and by the next morning they will be all right.

I have had swarms fill a hive with new comb and go up into boxes in ten days. One swarm, hived May 28th, made 15 section boxes of 16 lbs. each, besides filling the main frames.

These are exceptions, though. and the average as you may see, is this year 140 lbs. of both kinds to each old stock, or 47 lbs. nearly for each hive, old and new. And this in the face of an entire loss of the white sage honey, on which the main reliance is placed. The white sage grew up very nicely and began to bloom about the 20th of May, when the flowers blasted. and the result was, no white sage honey; and yet our honey is very nice and heavy.

The season for surplus honey ended generally the 10th of July, ten days earlier than last year, and six weeks earlier than expected; so you see, as time in honey making is value, we were left with large quantities of partly filled boxes.

The way the Harbison box is made, admits of the full sections being readily separated from the others, and from these filled sections we can make up full section boxes. I have used glass at the ends of my section boxes while on the hives. They are readily fastened by using the double pointed carpet tacks at each lower corner and a common tack or tins at the top. I like the glass very well, as it enables one to open his hives and see when the honey is finished without being troubled with bees, and then there are no points of wax fastened to the hives to break off and start the honey leaking.

If you can get your fdn. to work nicely, and can furnish them at a price at which they will not cost more than after they are sealed over with honey, this will prove a fruitful field for you.

Our nights being always cold, the ends of the boxes next the glass are built last. and are often ill shaped; so, if we had fdn. to put in, if only at the ends, it would save much time and annoyance, waiting for a piece at some lower corner an inch or two square, to be sealed over.

I have many daughters and grand-daughters of one of Dadant's imported queens. They certainly know how to work, but hate to leave a box full of honey. I have had little trouble getting rid of the bees from section boxes, as I pile 50 or 60 up close together, and in two hours they fly to the windows of the honey house, which being made of wire cloth, are easily moved and let out a half bushel at once, nearly all of which find their way back.

But my experience so far is, that the darker the bee, so long as there is a dash of Italian blood, the more box honey. The *very* yellow ones refuse section boxes, altogether.

For starters cut new, or at all events, *white* comb into strips about two inches long, and three or four cells deep. A little fruit kettle with bees wax and resin, suspended over a lamp, keeps the wax boiling hot. Dip the edge of the comb into the wax just enough to fill the lower row of cells, and quickly apply to the frame.

A few minutes practice will show what is wanted.

I have tried glue and several other mixtures to fasten in the guide combs, but find nothing so good as pure wax with just a little resin. With this the bees will begin at once to work, and not try to eat off the guides and build crooked. Those who have 200 to 500 hives of bees and four to six section boxes on each hive *must* have things right to begin with, or there is trouble.

Reading your troubles with your *smoker*, leads me to tell you of the kind used here. Nearly all here use a *stove*, made of galvanized iron. This stove stands on 4 legs about 6 inches long, has a body about 6 inches square and 15 inches long, with a hearth 4 or 5 inches wide, a circular door 3 or 4 inches in diameter in front and one of the same size on top near the front end. A pipe 2 inches in diameter running up about a foot, and then a square angle of 4 to 6 inches, finishes the stove. The cost in San Diego is $5,00 gold. Filled with partly dried wood, they burn for hours, the dampers fully regulating the quantity of smoke wanted. They are carried by a handle made of heavy hoop iron over the center. Try one when you next open your crossest hybrid hive and I will guarantee you will *subdue* them.

Another item; I see you yet open your hives and get your fingers stuck up, as well as the bees, with dripping honey. The way we do this thing, is to go to the hives we want to open, raise the honey board and loosen all the combs, then let them stand an hour or two, or over night, when you will find all the combs cleaned up so you can handle the frames nicely.

I am going to take half my bees to a new location in January, and want your advice as to whether or not hives set 6 feet apart each way as in your hexagonal apiary, are too near. Will this distance work in practice with 300 to 500 hives without losing large quantities of bees and young queens by their getting into the wrong hive?

The bees here are put on stands in rows 16 to 18 or more feet apart, 7 hives to a 16 feet stand. These stands are made of common fencing boards fastened by 3 cross pieces, and stand on 6 legs each a foot or more long. G. F. MERRIAM.

San Luis Rey, Cal., August 16, 1876.

The extractor referred to, was made before we commenced making our own gates, and besides making the exit for the honey larger, we have improved it in many respects. In regard to a reservoir for the honey beneath, it would make the machine cumbrous, would add much to the shipping expenses, and it would be much cheaper to rig this part of the apparatus to suit circumstances and persons. We would by all means have the machine so arranged as to have the honey run out of the way of itself, and in our house apiary, we have a cellar for that express purpose. A side hill for the extracting house, with the tank or barrels to hold the honey, in the lower story, would be a very convenient way. Stopping to empty pails, or to pour it out of the extractor, would be more bother than we should want to stand.

We should have no fear in using hives but 6 feet apart in an apiary of any size; if it were not for extracting, we think they might be set still nearer. In the house apiary, the entrances are little more than 2 feet apart, yet we have lost less queens there than with any other arrangement we ever used, but it is doubtless much owing to there being so many sides to the building, that but three entrances are in a row.

## DEPARTMENT FOR BOX HIVE BEE-KEEPERS.

### HIVING A NATURAL SWARM OF BEES.

FIFTY years ago the common bee hive of the pioneer was a segment of a hollow tree, with a board on top and sticks across the center, to prevent the new comb from breaking down when filled with honey or brood. Next followed the box hive finished somewhat after the fashion of the gum hive. From the first came the appellation of "bee gum." To introduce a natural swarm in either of these, is most easily done by hiving from above, and not from below as my "illustrious predecessors" did. This is readily effected by inverting the hive and placing the open mouth immediately under the swarm and almost in contact with it. If they have clustered near the ground, place the hive on the ground, and as the height varies, vary the resting of the hive, say on a bench, box, barrel or any object so as to obtain that relative position of bees and hive. If high up on the branch of a valuable fruit or ornamental tree, draw up the hive and lash it to the branch or some other object to make it secure; then a sudden jar by tapping the limb or other object will precipitate the whole swarm to the lower end of the hive. Cover the mouth of the hive with a board leaving two inches open. Immediately upon finding themselves in a dark room, they set up that "happy hum" indicating delight instead of fright, and all the bees that happen to miss the hive will make a rush for it, nay, they can not be kept out unless the mouth of the hive is entirely closed up. After a half minute's rest to enable the bees to get a footing, the hive is to be gently raised and placed in an upright position, and in five minutes more it can be removed to its permanent locality where they will begin the career of a complete colony.

If the swarm is high up on the body of a tree or an object not susceptible of the "sudden jar" I lash the hive securely to the tree or limb and with the quill end of a turkey's wing feather, detach as much of the *lower* part of the swarm as I can, letting it fall in the open hive as before. I say lower part of the swarm for there the queen is always to be found in a clustered swarm. I then put on the closing board, the roaring is instantly started in the hive and then I gently brush all the bees off the tree, not caring where or how they fall as they are sure to go to the sound in the hive. When they cease to return to the tree I lower them down, upright the hive and in a short time place them on their parent stand. Upon the same principle I hive bees in my triangular hives or in movable frame hives, with this difference; I do not invert these hives, but I bring the top of the triangular hive in contact with the swarm, and the slots for the honey boxes just underneath them, or I take out the centre frame of such a hive of any construction and place it as I do the triangular hive; then with the quill end of said turkey's feather detach about one-third the swarm, dropping them in and through the slots or frames as the case may be, gently pushing in all the bees that lodged on top of the hive, with the feather end. In an instant that welcome roaring is started, when I displace the balance of the swarm which lodging on top of the hive rush to their companions welcome. When the whole energy of the swarm is directed to the inner hive, I close honey slots or replace the movable frame and cut off connection through the top. They then make for the entrance calling in all absentees, and in a few minutes the new colony is placed in the apiary. It is the simplest process in the world to hive a natural swarm of bees if they are managed with patient gentleness and not irritated by rude treatment. Thousands of men think they know how to hive bees, and yet the use of the veil and gloves proves they do not comprehend the nature of the insect. I can hive a half dozen swarms in the same time required to make an artificial colony. In fact it can be done sooner than described, and there is no earthly necessity of using veils or other protective means. With this mode of hiving a natural swarm or with any other mode, *the most important part of the whole transaction is to remove the hive as soon as the confusion of hiving is over and the bees quiet,* to some other locality in order to avoid the returning scouts whose explorations of the forest for a hollow tree, may have been successful. If so, whether they find the swarm in the place they left it, or in a new hive they will as surely take the colony off to the woods as effect follows cause in any other operation of their economy. GEO. B. PETERS.

Council Bend, Ark., Sept. 22d, 1876.

## NOTES FROM OUR EXCHANGES.

### AMERICAN BEE JOURNAL.

### THE BEST HIVE FOR ALL PURPOSES.

*A paper read before the Missouri Valley Bee-Keepers' Association,*

"WHAT is the best hive for all purposes?" In what I shall offer I hope I may be able to throw some light on the other question—"the best mode of obtaining box honey." I will try and give you a description of the hive that I use, and I begin with the frame, which is the most important part of any hive.

The top bar is a stick of wood ¾ inches square, and when used in the hive one corner is uppermost. Mr. Bingham uses them 21 to 22 inches long. I use them 20 in. long, but were I to start anew, I would use them 24 in. long. The end pieces of the frame are ⅜ inch thick, 1⅜ or 1½ in. wide, and 6 inches long. There is no bottom piece to the frame. We use from 8 to 12 of these frames in a hive, 10 frames are ample for a very good swarm. The ends being 1½ in. wide stand close together when in the hive, and really make the side of the hive. It will be seen that the bees have ample space to pass between the top bars to the surplus boxes. Having finished the frames I will proceed to the rest of the hive. I have varied my case from that used by Mr. Bingham, and as I prefer it, will describe it. The front board is 2 in. longer than the frames over all, that is if your top bar is 20 in., and your end pieces ⅜ in., this would make the frame 20¾, so this front board would be 22¾ long. Strips ⅜ in. thick are nailed on top and at each end of bottom board; these strips raise the frames and front board ⅜ in. from bottom board, and make the entrance for the bees. The back board is precisely like the front board, so there is an entrance front and rear, but in practice we generally (except in warm weather) close the rear entrance by a spare strip sawed off the proper length; a rod of iron with thumb screws at each end holds them together.

These side boards are 6½ in. wide and rabbeted on each edge as represented, and are as long as the bottom board is wide, say 20 or 24 in. Now this box screwed together with the requisite number of frames makes the hive proper. But the ten frames will not occupy all of the bottom board, so that the back board of the hive must be crowded close up to the frames, and by turning the thumb screw will retain them as tight as if nailed, but can be instantly loosened by loosening the screws. When you do not want boxes on the hive, the cover can be put on and you have a hive complete. I always use a cloth over the frames so that the cover does not stick when being removed. Now when you wish to put on honey boxes, remove the cloth and put them directly on the frames—do not use a honey board. Get your brood and surplus boxes as near together as possible, but we have no case for the honey boxes. To have this, put up another box with the rods and screws exactly like the lower one for the hive proper, and it will fit like a glove, the rabbeted edges of the side boards holding it in place, and so on up, any number of stories you may desire.

I may not have made my description plain, but I think any of you with a mechanical turn of mind can get the idea. Its advantages are that it is simple and cheap, absolutely free of gimcracks and traps, yet possessing all the real requisites of a first class hive. It will be seen that two kinds of pieces are necessary for the case—side boards and end boards. Of course you must have a bottom and top. The top is any plain cover that will project over all and which is water tight.

No hive in the world can beat them for box honey, for the reason that you can get the brood and honey boxes so near together. I do not speak at random, I know what I am talking about. Hundreds of these low hives are in use in this vicinity, and they are fast driving out all other hives, and when they become generally known the name of their inventor—Mr. Tracy Flynn Bingham—will hold a place among apiculturists, not inferior to Quinby or Langstroth. JULIUS TOMLINSON.

We believe six inches, is about the greatest extreme of shallowness that has been tried or recomended; we admit its adaptability for box honey, but we cannot well fail to caution our readers, by reminding them that great losses in wintering have resulted where such hives have been largely in use. It may be the shallow frame has nothing to do with it, but scarcely one among us has reported the heavy losses Mr. Bingham himself has. We would like to ask if the combs are not very often fastened to the bottom board where such shallow bottomless frames are used. On so long a frame, the bees would probably be so far from the ends, that we should have little trouble in handling them, even if they were closed ends.

May we take the liberty of cautioning enthusiastic writers about using the names of Quinby and Langstroth in that way? Perhaps Mr. Bingham himself, feels more pained by it than any one else. Instead of predicting that any one will hold positions beside these names, will it not be best to wait until the world shall see fit to accord it them?

## BRITISH BEE JOURNAL.

### A COUPLE OF HOURS IN A GERMAN APIARY.

Having occasion to visit the small town of Furstenwalde, situated on the river Spree, about 25 miles from Berlin, I learnt that a member of one of the German Apiarian Societies had established an apiary in a village at an easy walking distance from the town.

He was most kind and courteous, and after insisting on my sitting still, 'to cool myself,' after what, in German estimation, was a long walk, he conducted me to his apiary, most pleasantly situated beneath some find old trees, which completely shaded the hives from the sun, and enabled the operator to manipulate them, at all hours of the day, without getting violently heated. In the centre of a round space about twenty feet in diameter stood a square bee-house, from all four sides of which bees were issuing in large numbers. 'Do you find that practically, it makes any difference which way the hives face?' I inquired. 'Not the slightest,' was the answer. Not far from this centre house stood the most remarkable thing in the whole apiary, namely a skeleton hive, in which were twelve large bar-frames and a stock of bees, which were then, and had been, busily at work for weeks. I could hardly believe that they were not robber bees emptying some combs, until assured by the bee-master that they formed really a strong and healthy colony. They have been in their present position since very early in the spring, open on all sides and at top, and with no other protection from winds and drifting rain than a sloping board fixed about four inches from the top of the bars. I stood for several minutes watching them, hardly even then able to comprehend the fact that a colony of bees could exist, let alone prosper, with so little protection and so close to over forty other stocks, which, according to our English idea of bee-keeping, ought to have attacked and demolished them. 'Do they never rob each other?' I inquired of the bee-master. 'Never.' I shook my head in perplexity and passed on to one of the stands or houses. 'Do you find it most desirable to keep the bees warm in winter or cold?' I asked, seeing that his houses were for the most part lined with nearly six inches of dry moss, and that his hives had the same wedged in between them. 'I have practially proved that bees kept as you see these here eat considerably less during the winter, and are just as strong in the spring as those kept cold; in fact, I believe they cannot have to great a thickness of moss around them. In winter it keeps them warm, and in summer cool, but they have, of course, all got a ventilating aperture at top.' 'What about the entrances? Do you contract them at all or not?' 'On that point there is a diversity of opinion, but as far as my apiary is concerned, I never make any difference between spring, summer, autumn, or winter.' 'So,' I replied, and passed on to what, as the bee-master told me, were the newest and best hives in Germany. I must endeavor to describe them. The hive itself is about two feet long by about twelve or fourteen inches wide, has a round top, is made of straw and is well painted, and contains sixteen bar frames.

'Do you let your hives swarm naturally?' I asked. 'If they will do so sufficiently early; that is to say, those which will swarm I let swarm and those which won't I divide.' But do you not lose many? Do they not often settle on one of the trees where it would be difficult, if not impossible to hive them?' 'Never,' he answered, 'for the simple reason that I always make them settle where I wish, often on my hand.' The bee-master laughed on seeing my look of surprise. 'This apparently wonderful feat is very easy of accomplishment,' he said; 'I cut the wings of all my queens, so that, when one leaves the hive, she falls to the ground; and I or my wife, being always on the look-out, catch her and put her in a small cage, which I place wherever I desire the bees to cluster, or hold in my hand, from which, in a few minutes, I have thousands hanging.'

I may here mention that most of his hives are more or less fixtures, that is to say, that three and four stocks live in one large hive, being separated from each other by dividing- boards, which he finds a great saving of trouble and equally good for the bees.

'Do you feed much?' I asked, seeing a number of shallow tin trays. 'In spring I feed but not at all in summer; sugar is too dear in Germany (best loaf sugar 6*d* per lb, and often 7*d*.).' 'Do you know the bottle feeders' I asked. 'Yes; but for spring feeding I prefer the shallow zinc or tin trays, which I put into the hive, and from which the bees will feed, when they would not touch the syrup if given to them in a bottle at the top of the hive. I have had almost every feeder that has been invented, and tried them all; but must confess that, according to my experience, nothing beats this at once simple but efficient method.'

I enquired if he had ever had foul brood in his apiary. 'No,' he answered; 'but since Herr Emil Hilbert's valuable discovery of a cure for this formerly fatal disease German bee-keepers no longer dread it.' 'What!' I exclaimed in surprise. 'Has a remedy been discovered which is really to be relied upon?' 'Yes,' he replied; 'a remedy which will effectually cure the disease without the destruction of a single bee, or the loss of a drop of honey or of an atom of comb. The discover of the remedy cured 25 badly affected stocks, and other bee-keepers have cured thirty and forty without a single failure.' 'And what is this, to bee-keepers, really priceless treasure?' I enquired, eagerly. 'Salicylic acid.' 'This news is certainly as wonderful as it is important,' I said. 'But how is it used?' 'I will lend you a paper giving a full description of the discovery and the means of preparing and using the preparation,' said the bee-master. 'Many thanks—I should be charmed to read it,' I answered. And from this paper I have extrcted the following lines :—

'Put 50 gramms [ ½ lb. ] of the best crystallized acid into a bottle with eight times the weight of good spirits of wine, and cork it up till required for use. This quantity of the acid should not cost more than a thaler [ 3*s.* ] and will be found sufficient for about 12 stocks. The salicylic acid thus prepared should be mixed with water in the proportion of one drop of the spirits of wine and acid to one gramm of water [a gramm is the one-hundreth part of a lb.]. The water employed for this purpose should, if possible, be soft, and of a temperature of not less than 12° Reaumur [59° Fahr.], as otherwise the acid is likely to crystalize, and also the brood would be chilled. With this weak preparation of the acid, the combs and brood, as well as the hive itself, of an affected stock should be well sprinkled, after, of course, having thoroughly shaken the mixture. The combs are to be replaced in their hives as soon as the operation is completed; and if the above proportions have been strictly adhered to, it will be found that, though the young brood will not have been in the least injured, yet the virus of the disease will have been effectually destroyed.

Should the weather be cold, the hive should be taken to a warm room. Care must be taken not to let bees from neighboring hives suck the affected honey before the application of the acid.'

Amongst other things he told me that he had that spring used the salicylic acid as a preventative against foul brood, having mixed it with the syrup. Salicylic acid is said to be used as one of the best remedies for diphtheria, etc. In the provinces of Hanover and Brandenburg he told me there were bee-masters with as many as 500 stocks. 'But,' I asked, 'is it possible for one person to attend to so many?' 'No; one person cannot attend to more than about seventy. I intend to increase my apiary next year to about that number.' 'I suppose, then, Hanover is a great province for honey?' I asked. 'There are several thousand stocks there altogether,' was the answer.

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### BEE-KEEPERS' MAGAZINE.

We think the number of frames of different sizes that have any claim to be adopted as the standard can be reduced to two, one about square, 12x12 and one 12x16.

While we should thus have two standard frames, we claim that there need be but one standard hive which will receive 12 frames 12x12, or eight frames 12x16.

We can not see that having a frame with dimensions in whole inches, will be of any particular advantage, for in that case we should have to use fractions for our hives, and also for the inside dimensions of the frames; and this latter item, bids fair to be of some moment, since fdn. is coming into use. We have frames in use now that can be used of two dimensions in the same hive, but although the idea was a long time advanced, no one seems to have profited by it. The Gallup and Standard frames as given in our diagrams, and also the Gallup and suspended Quinby frame being of equal depth, can be used in the same way. We should be very glad indeed to see some progress made in the direction of one frame. Perhaps all hands are going to settle down on the L. without farther discussion, at least the matter now seems going strongly that way.

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### BEE WORLD.

In the early part of November, 1873, I noticed that the bees of some of my stocks were dying, and I began to anticipate a serious loss during the winter. I opened the hive that seemed to be most affected, and found the whole interior dripping wet. The hive was so tight that there was not a particle of ventilation anywhere but at the entrance. I got a piece of old rag carpet, and folded it so that it was six inches in thickness and laid it on the frames. I left the honey board off, and put on the cap, which had inch holes, covered with wire cloth, in the gables. A few days afterward I examined the hive, and found it dry, and the bees apparently healthy. I had 20 hives, which I fixed in the same way, and they all wintered and "springed" well. The winter was a very mild one. Rev. M. Mahin, D. D. Newcastle, Ind.

Abundant testimony seems to point out that bees must not have a hive that is too tight, yet a very strong colony will many times do well with so little air, that some claim they need no upper ventilation. May it not be that the quality of stores has something to do with this matter?

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### LOS ANGELES HERALD.

The editor has very sensibly been making a flying trip among the bee-keepers of California, and accordingly will be able hereafter, to talk bees understandingly. Listen to the wonderful things our brothers are doing in the land of perpetual summer:

* * * The setting sun found us at the apiary of J. W. Kazen, a live Yankee bee-keeper, who started last spring with 130 colonies, which have increased to 600, and he took 16,000 pounds of honey. * * * We wound our way up into Hall's cañon, where we found our old friend, R. Hall, and lady, far up in the world for people of their age. He has 130 colonies that are in large movable frame hives and very strong. He has no one to assist him and though bowing under the weight of years he has accomplished much, having taken 12,000 lbs. of extracted honey, made hives for the increase, and attended to domestic matters generally about his ranch. He has sent a sample of his honey to his native land (Scotland) with the hope of receiving an order for a shipment. May our aged friend receive a rich return for his labors.

Crossing over a neighboring mountain we found ourselves at the apiary of Mr. Sallie, a bee-keeper of notoriety. The proprietor not being at home our stay was short. We were informed that he had 350 colonies and had taken about 20,000 pounds of honey.

* * * We next stop at the apiary of A. S. Hamilton. His comb guides are worthy of particular mention. They are made of melted wax, are straight and an exact distance apart, which makes uniformity in size of the combs. He levels his hives with a spirit level, letting them tip a little forward. We have yet to see the neat appearance of his box honey excelled. He commenced late in the season with about 25 colonies and now has 112 and has taken 5000 pounds of box honey. He is a modest and unassuming man and does not blow his own horn, but is doing much for the advancement of bee culture around him.

## CHAFF PACKING, AND LEAVING IT ON, AND AROUND THE SECTION BOXES, ALL SUMMER.

YOUR letter of inquiry of the 5th is at hand. I see by GLEANINGS this season, that you are on the right track now to winter and spring your bees successfully. Don't, I beg of you, make a failure of chaff packing, as you have of so many other experiments you have tried in the past three years. If you fail in chaff packing, in my opinion you can have no possible excuse to offer, except lack of thoroughness in doing it. You ask somewhere in last GLEANINGS, about packing underneath the hive, I started with the idea that the under packing was most important of all, and am so well satisfied that I shall make no experiments on that head, but let every one pack as he pleases. If you are going to let the frost in at the bottom, why keep it out at the top? You might as well lock your front door against a thief, and leave the back one wide open. Buckwheat chaff is not porous enough for top packing, I prefer very coarse dry sawdust, as I am firmly opposed to any absorbent. I want the moisture to pass off freely, and get entirely rid of it; then, at any time I put my hand between the pillow of sawdust, and the woolen blanket underneath, I always find it dry and warm, and they are also very handy to examine, which it is well to do once or twice between November and April to know that they have sufficient stores, as you know that some stocks will persist in eating just about three times as much as others. If any are found short of rations, lumps of loaf sugar can be put under the blanket. I commenced feeding two stocks thus last February, and brought them through nicely; of course I commenced feeding before they were entirely out of honey. I have very little confidence in your house apiary, with the thin paper walls, for wintering bees. If you will get two good thick doors, and have both shut tight on list, then pack your house outside with 6 inches of chaff or sawdust, and put pillows of sawdust on each hive, you can probably winter bees well enough in it. You say you can pack them in the house very readily, but that would leave the side next the thin paper wall exposed, without any protection whatever, unless you draw the frames all back, put in a division board and pack between it and the wall, extending the entrance under the packing. Last winter, you probably had not as many bees in *ten* of your hives in the house apiary, as I had in *one* of my non-swarmers. I have no objection to the house apiary as I have it, for wintering or springing bees, and they will work and store just as much honey through the summer, but it is a very inconvenient plan in which to handle brood or boxes, and bees are much crosser. I can handle them twice as fast out of doors, where I can get at them on all sides. I run two stocks in the packing boxes this season; one swarmed out the second time, and insisted on having a new hive. I bothered with them about two hours more or less, trying to get them to go back into the old hive full of empty frames, but did not succeed. I finally gave them a new hive and had peace; but then I had one or two others that insisted on having a new hive in the same way, that were not packed. How quickly such swarms would go to the woods if their queen was not clipped. They had to be humored and have their own way at the time, and afterward I had mine, as the next day I lifted the rack of boxes from the old hive into the new, and in five days I filled the new swarm out with the old brood combs, leaving only such new combs as were nearly finished. The other hive that was packed (both L. with the packing under and on the sides to the top of the brood chamber, none around the boxes—large entrances on both sides at side of comb) had to build several brood combs, and did not swarm, but large quantities of of bees covered the sides of the box all summer, as the heat from the brood was all retained. Another hive was run in a box without packing, using only the roof to cover the boxes; this hive hung out less than any other, and seemed to do well; it was ventilated throu' the bottom of the box. And now, to sum up this matter of winter protection: My conclusion at present is, that the best and cheapest way to do it is to adopt the closed end frames, and make the outer case so as to be right for chaff box in winter, and shade for the hives and boxes in summer. If the cases are made high enough to cover two tiers of boxes on top, then for winter the hive can be raised up 5 or 6 inches on a false bottom, and packed under and all round, and still leave 4 or 5 inches between the pillows and the roof. I find with practice and a little little instruction from those who have used them, that I can handle brood and hunt up queens, early and late in the season, with more facility, than with the hanging frame, of same size, and you are aware that I don't propose to handle brood combs much in the height of the season. Such frames are very handy for nuclei, and I don't see why they would not be handy to extract from, but I say let every one use that which suits him best; as in my opinion there is a great deal more in this bee culture, than the mere dollars and cents we are likely to get out of it.

You probably opened your bee house door, and let the light shine into the boxes through the glass on the inside, and for that reason they worked stronger next the wall, where light was excluded. At all events, I found at once when I commenced using the bee house, that I would have to shade; and have done it with building paper tacked on to a light frame. Where they are thus shaded from the light, and stocks are strong, I find they generally store honey rather faster in the inside row of boxes, than in those next the wall, unless the yield is slow, or the weather cool. If you make the sides of your rack or holder of ¾ or ⅞ inch stuff, and as wide as the boxes are high, you will exclude the light, and retain all the heat necessary. I understand that the most extensive honey producers in the States, don't use a particle of glass about their hives. If they can run thousands of stocks in that way, it strikes me, that we ought to be able to run a few dozens. I know this is different from what I talked last winter, but like yourself I claim the right to reverse former conclusions, when I see they are likely to block the wheels of progress.

I probably would not have replied to your letter at all, but the other day I saw your extractor in Mr. King's office, in New York, and I was so well pleased with it, that I felt that the bee-keepers of the country owe you a debt for perfecting and cheapening that implement.

Your section boxes don't suit me at all, for many reasons, and then the course you take in regard to the fdn., why, for box honey I put them alongside of glucose; the customer that buys comb honey, is entitled to what the bees make, but you sell him wax fdn., hence you perpetrate a fraud, and ought to be put in the "Humbug and Swindle" column.

When I get my hive to suit me and know just what frame I shall use and no other, I will order an extractor from you. My apiary has been an experimental one so far, and will be for one season more at least. It looks to me now as though I should settle down on a frame with closed end 11¾ inches high, and 18 in. long outside, as I have several of that size, and the combs in three-fourths of my hives will fit such a frame.

J. P. MOORE.

Binghampton, N. Y., Oct. 9th, 1876.

## IS OUR OCCUPATION AN UNHEALTHY ONE?

THIS has been a good season for this section of the country. Last fall I had 19 stocks, wintered a part in the cellar, the balance on summer stands well packed in hay, blankets, quilts etc., the front as well as the rest of the hive, and the entrance covered with hay. For strong stocks it is less trouble than carrying in and out the cellar. I lost one in the cellar and one on the summer stand, they were starved. Then 7 dwindled down in the spring so I had only 11 in May. They have increased to 19 again mostly by natural swarming. I could have increased more but I did not care to. I tried Butler's plan and like it. When a swarm came off, I put it in a hive nearly filled with brood and combs, and moved the surplus boxes or frames from the old hive to the new one; then in a day or two I put a swarm in the old hive and gave them boxes to finish. I did five or six so, and I think it is a good way to make honey.

I have sold $110.00 worth of honey this summer, extracted and comb, at 20c. and 30c. retail, wholesale at 17c. and 25c. in frames or small boxes. My bees are in better condition than last fall. I don't think I shall feed any this fall. I have been sick for some weeks now, a pain in the head, and unable to stoop or labor. I am afraid working in the hot sun with the bees has made my head bad. I wonder if it shortened the lives of Quinby, Grimm, Hamlin and others. Do you know of a modern bee-keeper who has lived to 70? I am now 65.

D. WINFIELD, Hubbard, Ohio, Sept. 28th, 1876.

It has been several times suggested that being stung so much was injurious to the health, but never before so far as we remember, that the pursuit was deleterious in other respects. So far as the hot sun is concerned, there is no neccessity at all for it. If your bees are shaded as they should be during the hottest months, you will not need to stand in the sun, and the stooping can be obviated by raising the hives a little. If you are not in a particular hurry, you can get a comfortable old chair and sit down at it; we often do this when tired, and if our implements are arranged conveniently, it is not so very tedious after all. We believe that it has been pretty well demonstrated of late that even the stings have no worse effect on the system, than would so many slight burns. For an old gentleman, the house apiary would be very nice. The gentlemen you have mentioned, all lived to rather more than the average years, and had Mr. Grimm remained in his apiary, instead of taking the cares of a bank, it is thought he might have lived still longer. We have great numbers of instances where invalids have recovered and become tough and strong, by going to work with bees in the open air. In my own case, I find it almost impossible to work in-doors more than a couple of hours at a time, especially at severe mental work, yet I can work among the bees, and be "happy all day long", without so much as ever thinking of one hand being less efficient than the other. The right hand that seems almost useless with a pen or pencil, never thinks of weariness, when manipulating frames and hives. And who can tell, but one who has had actual experience, of the difference one feels when coming to the dinner table? After a forenoon of indoor work, we are crippled, pinched and blue; but after the out-door work, joyous, hearty, and ready to devour almost the plates, knives, forks and all. Of course bee-keeping is not the only employment that brings this, but it seems to us there are few more healthful employments, all things considered.

We would advise having bees enough, to keep one busy; and the man who can and does take all the care of 100 colonies, we think will be pretty sure to be—just take a look at friend Doolittle in our photo Medley, and you will get the idea.

## HONEY IN FANCY SHAPED COMBS, ETC.

REGARDING the storing of honey in fancy shapes, I use 1½ inch pine plank cut the size of my sections, 5x6, then cut the desired shape, stick in a "starter" and slip them in among the sections. Heart shape is as good as any and especially appropriate at wedding suppers. If put on in the height of white clover bloom, they will be filled wonderfully perfect and white. For a good job always place the point of the heart upward. I always save every particle of clean white comb for my supers, and do not expect to use any next season without comb or foundations, as I am thoroughly convinced that it pays "wondrous well". I consider the foundation a great acquisition.

You recommend zinc or tin points for holding the sides in my glass honey boxes; a good suggestion, but is'nt my present plan a better one? I use nothing whatever to hold them together but four pieces of paper one inch square fastened with prepared glue across the corners of the sides above and below. I frequently place a partly filled section with empty ones, on a colony to induce them to start, but never thought of leaving the bees on. I place my boxes and sections directly on the frames on my "Boss" hive. If the frames come to the top of the hive, the sections and boxes are easily loosened by using a fine wire 20 or 24 inches long tied to a couple of sticks for hand holds. It can readily be drawn under the boxes. Try it. I'd like to have you see my "Boss" hive.

Have had ready sale at home for all our honey, at 25c. in sections or glass boxes. I sell boxes and all at 25c. per lb, and pay the same for boxes etc. when returned. How is your thick comb race coming on? I have some 3½ in. thick. J. M. GORMLEY.

Carey, Ohio, Sept. 18th, 1876.

The cutting out of these fancy hearts, ovals, circles, crosses etc., will be fine work for the boys on their scroll saws; and as scroll sawing has become one of the fine arts, we suppose there will be no trouble in having any number of them in readiness at a moderate price, before another season.

The idea of cutting the whole set of boxes loose at once, certainly deserves considering, but will it not kill more or less bees? Have as yet received no samples of the thick combs.

## HIVES USED BY OUR LEADING BEE-KEEPERS.

*Continued from Sept. No.*

WE believe the principal hive in use in California, is the Langstroth; but those used by Mr. Harbison are mostly if not all, what is called the Harbison hive. The frames instead of being suspended, are held up, and at an exact distance from each other, by one of the uprights being prolonged and resting in a mortise in the bottom board.

Both the top and back side of the hive are movable, and his surplus honey is all built above the frames in his well known section boxes. His hives are made tall enough to hold 3 tiers of the section boxes. On pages 8 and 53, of Vol. III, we gave description of the hive and section boxes. The Harbison hive is not used to any extent except by himself, we believe.

By far the greater part of the hives in use among our readers, perhaps $\frac{3}{4}$ of them in fact, are the L. frame, and the hives to hold these frames are principally the L. hive with the portico, and with an upper story made so as to slip over the lower one. The expense of these, their bulkiness, and the difficulty of having both upper and lower story one and the same thing, have induced many to omit the portico, use a movable bottom board, and have bottom and cover, upper and lower story, one and the same thing. The saving in expense by such a course is considerable in an apiary of 100 hives, and the facility with which these simple bottomless boxes can be stowed away, either filled with frames or empty sections and with which hives can be enlarged to any size, has induced us to make them thus for several years past. For a two story hive, the L. frame on account of its shallowness, has been universally preferred in place of either the American or Standard; but for a long hive,—20 frames or more—to be used with the extractor, the two latter on account of their shape, seem to be liked best. With the new impulse in favor of comb honey, the L. frame seems by the majority to have received the preference, yet the other two, including the Gallup, will perhap do equally well if we use boxes at the sides as well as on top.

The surplus arrangements for comb honey, seem now all tending toward section boxes, or at least toward something that will enable us to separate all the combs from a box, without daubing or breaking the honey. Harbison seems about the first to get this idea started largely, but his section has altogether too much wood in it, and is too expensive to make; in fact with the demand that is springing up for them, we hardly think any kind of a nailed box will be tolerated, for nailing is too slow, and too inaccurate. We must have a section box that shall not vary the 32nd of an inch in making 10.000, and to have it done nicely, and at a small price, we *must* bring in machinery.

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If not too much trouble, I wish you would give me the dimensions of all the different parts of the two story L. hive, for two sets of main frames or, if required, two tiers of honey boxes. I have about 300 new hives to make, and do not want any mistakes.

I have become a convert to the fine qualities of the Harbison hive for swarms and box honey, but extracted honey will sell better, so I want to be prepared for both, or either, as I may wish.

The Harbison frame or rather hive is not well adapted for extracting as the frame is too small, and the sill to hold up the upper tier of frames is in the way for rapid work extracting; nor does it hold honey enough to work to advantage.

The H. frame will average $3\frac{1}{2}$ lbs., the L. frame $5\frac{1}{2}$ and the Quinby frame $7\frac{1}{2}$ lbs. of honey, but the last is too heavy to handle easily and requires too much care when the combs are new. Any suggestions you may make will be appreciated. G. F. MERRIAM.

San Luis Rey, Cal., Sept. 18th, '76.

Thank you friend M., for your hints on an unsettled matter. If our people were all agreed on what should constitute an L. hive, we might give you the dimensions in a few words. As it is, we are only agreed on what constitutes what is termed an L. frame, and that it shall be $9\frac{1}{8}$ deep, by $17\frac{5}{8}$ long; the top bar having supporting arms of $\frac{3}{4}$ inch each. Now, how many such frams shall we have in the lower story? Some use only 8, but others insist on 11 or 12, and others still who have not recovered from the "long idea", insist on as many as 30 or 40. In this as in many other things we shall be safe to take the average used by the masses, which is 10 frames for the lower story, and the same amount of space, or perhaps a couple of inches more, for the upper story. The space needed for 10 frames of brood, is just about $14\frac{1}{4}$ inches; a little more will do no harm, and if needful, they may be worked in a little less; but after using them of different widths year after year, we find the $14\frac{1}{4}$, about what is wanted. For the usual style with portico, we want our end boards just $14\frac{1}{4}$, by 10 inches, and the sides of the hive, 2 feet by 10 inches. We want $\frac{3}{8}$ at each end of the frame, so we will nail the ends between the sides, so as to have the former just $18\frac{3}{8}$ apart. This is done so as to leave the side boards projecting only in front, to form the portico. The bottom is made by nailing matched boards cross-wise the whole length of the side boards and if the front board has been left $\frac{3}{8}$ narrower than the back, and nailed so as to raise it $\frac{3}{8}$ from the bottom boards, we have the entrance all completed without trouble. Before nailing, the back and front are to be rabbeted for the ends of the top bars, just enough to allow the frames to hang within $\frac{3}{8}$ of the bottom board. The upper story or cap, is just large enough to slip over the lower story, and it rests on square strips nailed to the sides and back end, within $\frac{1}{2}$ inch of the top edge of the lower story; the roof of the portico is dropped into the sides $1\frac{1}{8}$ inch, to allow it to be on a level with these strips. To have it shed water, the projecting edge is made thinner than the back where the upper story rests. The upper story will of course need an extra board in each end, where frames are used above, and these boards are rabbeted so as to allow the frames to hang within $\frac{3}{8}$ of the tops of the lower frames. This wastes lumber, leaves a loafing space for the bees between these ends, and makes the hive heavy and awkward to handle; yet as some of our customers insist that this is the way an L. hive *should* be made, we have gone over it in detail. We might add, that the best made hives have the corners halved in, and the bottom board also.

After the above explanation, we need only to say that the Simplicity hive dispenses with the portico, all strips, has both stories exactly alike and the cover and bottom board are one and the same thing. For an entrance, the hive is pushed forward over the bottom board, and on several accounts we prefer such an entrance to any other; the cold winds will not blow in as with the portico hives, dead bees and rubbish tumble out of themselves almost, and any amount of entrance or ventilation can be readily given without anything loose to tumble round. Our hives that were filled clear up to the fourth story this season, were of this description. Perhaps it may be well to add here, that although bees will carry honey up to this height—they worked in section boxes on the top of the third story—yet we do not find it very good economy, for they did much better when we took out the second and the third stories, and placed the sections directly over the brood.

## BEE BOTANY AND ENTOMOLOGY.

### A LEAF FROM THE BOOK OF NATURE.

IT was the first day of our county fair, about 10 o'clock in the morning, of a most beautiful September day. I was balloonist, and had just set afloat a sufficient number of the colored tissue paper globes to set all the juveniles wild with delight, and to induce as well, a crowd of older children to turn their spectacled gaze aloft, while the balloons gracefully soared heavenward. I too admired them, but soon my attention was taken with something, to me far more entrancing. It seemed at first to be a dense cloud of musquitoes, but as I came nearer, they had more the movements, and appearance, of bees at swarming time. I forgot the swarms of humanity about me and drew near the insects, wondering if it were not possible a Kind Father would unfold to one of his children, something of the hidden and mysterious laws that governs this phase of insect life. By ascending a little eminence I was enabled to get much nearer the phenomena, and finally a light breeze, wafted the swarm so that it completely enveloped me. My thought was, "why do these insects sport thus, and for what purpose do they thus congregate and dance in the sunshine?" After a few minutes of close attention, I discovered individuals dropping straight downward, and when the eye had been trained to take note of these, the falling became so plain that they resembled drops of rain. I looked at my feet, and in one minute more, I knelt in the grass, and with uncovered head, thanked the great Author of the universe for guiding my stumbling footsteps, where I might behold the open pages of this great book of nature. The insects—small black bees they seemed—were drones and queens, and although I might never witness the actual meeting of the sexes of the honey bees, here the phenomena was spread out before me in countless thousands; could I help thinking there might at least be an analogy? Did it ever occur to you my friends that it is singular how queens and drones could meet when they both seemed to soar at random high up in the air? A queen comes home fertilized many times after the lapse of not more than 15 minutes, and yet there may not be more than a few hundred drones in the apiary; how does she find them? If all the drones for several miles around were wont to congregate in droves or swarms at certain hours of the day, and sport in the sunshine, it would be a comparatively easy matter for a queen to make her way to them attracted by their hum, and she would also be quite sure of speedy fertilization, as I had it here demonstrated before my very eyes. Again if they do thus congregate, from far and near, she would almost invariably meet drones from some other apiary, or hive, at the very farthest, and have we not all had experience with queens meeting black drones when our apiaries only contained Italians? Has not nature ordained that the males of insects shall thus congregate in vast swarms for the express purpose of preventing queens from meeting with the males of their own families, and at the same time insure safe and speedy fertilization? Some one of our readers has, if we mistake not, reported seeing drones thus congregated in large numbers; will that friend please give us a full report of the matter? My first impression was that the drones expired as with bees, for they seemed instantly paralylized. If separated forcibly, the female presented precisely the appearance of a queen bee, returning from a successful flight, but if let alone, the drone revived in about five minutes, and both flew away apparently unharmed. After reading the reply of Prof. Cook, given below, we hope our readers may make similar observations, and perhaps give us some new facts. We are strongly inclined to think the playing of gnats and musquitoes in the sunshine, a phenomena of similar significance, but as yet observation has failed to corroborate it.

DEAR FRIEND ROOT: The insects you sent were veritable ants—five males and as many females—and no wonder that you were surprised, for there is something very stirring in the event of celebrating their nuptials by a colony of ants. The natural economy among ants much resembles the same among bees. In every colony there is the queen, often several, the drones—both of these classes posess wings—the wingless workers, and in addition the soldiers, whose name no less than their terrible head and enormous jaws, indicate their office in the colony.

In the spring the queen or queens are busy, and the advent of workers and soldiers is astonishing. Towards the close of summer, large numbers of true males and females are developed; these, like bees, always pair on the wing, and as they come forth often cloud the very heavens with their exceeding numbers. In pairing they fall to the earth, and, as with bees, the male seems wholly overcome, and soon dies. Not so the queens. Observed by some workers, which are obviously on the lookout for a new sovereign, perhaps I had better say slave, for they not only seize her, as the Sabine maidens were seized in the olden time, but they actually eat off her wings, that escape shall be impossible. What would friend Adair say to that were he still in the saying mood? He would reason to loss of vigor, from loss of tracheæ, and to deformity, as the result of natural selection. Yet neither results, nor should we expect it. These new, soon to be, mothers of populous ant-kingdoms are taken to their new homes, and, like the Sabine captives already referred to, soon become the satisfied and happy matrons of a prosperous and joyous family. These ants are so different in structure from bees—belonging to a different family; *Formicidæ*, instead of *Apidæ*, and so different in habits, though possessing—as do the bees—marvelous instincts, that it would not be safe or even reasonable to reason from the habits of one to those of the other. Each must be determined by actual observation. And in view of the pleasure of such researches, are we not glad that it is so. "Oh, God, how manifold are all thy works, in wisdom hast thou made them all."

A. J. COOK.

Lansing, Sept. [illegible], 1876.

# GLEANINGS IN BEE CULTURE.

**Published Monthly,**

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

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## MEDINA, NOV. 1, 1876.

THESE are the things that ye shall do; Speak ye every man the truth to his neighbour; execute the judgement of truth and peace in your gates: And let none of you imagine evil in your hearts against his neighbor; and love no false oath: for all these *are things* that I hate, saith the LORD.—Zech. 8: 16, 17.

◆

THE conflicting reports in regard to the amount of stores needed for winter, are probably caused by the difference in the size of the colonies. Five lbs. of stores for every quart of bees will, we think, not be far out of the way, and if you can winter a quart, you will probably find five lbs. sealed honey enough, but with eight quarts of bees it might require the whole 40 lbs. The medium would be 4 quarts of bees, and 20 lbs of stores, and that is about as they average, we are inclined to think.

THE Mitchell clique, seem getting to be a regular organized band. A few days ago a farmer inquired if we used the new bee-hive that was taking the place of the old style all over the country, and when questioned further, said rights had been sold for it to many of the leading men in his neighborhood. This was in our own county, and yet so positive were they that it was *the* hive, that we felt it almost hopeless to think of convincing them they had been swindled. His plan was evidently to avoid experienced bee-keepers, and get his victims among the farmers who had heard of the great crops of honey secured of late years, but knew nothing of how it was done. Will people ever learn the folly of paying their money to utter strangers, instead of to the practical men in their own vicinity, who are surrounded with the evidences of their succes, and truthfulness, in the shape of flourishing apiaries, and fine crops of honey? Have you learned by experience that you are not smart enough to keep your own money in your own pocket? If so, lock your doors as some of the women about here do, when they see a well dressed stranger approaching.

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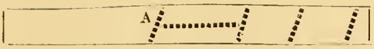
## HIVES FOR OUT-DOOR WINTERING.

YOU have been "Gleaning" a great many years, and have gathered a great many "Heads of Grain," now will you please tell us in November GLEANINGS, what plan you are going to advise for wintering bees. We do not want any one's hobby, but just tell us candidly which plan has been the most successful and has given the most satisfaction all things considered. ILA MICHENER.

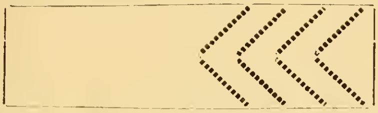
Low Banks, Ontario, Canada, Oct. 2d, '76.

Without any doubt, the most favorable reports come from those who winter in good dry cellars, and if such were in the reach of all our readers, perhaps no better advice could be given, than to winter in that way. A cellar can hardly be called a good one, unless bees can be kept in it in quietness all through such a winter as the last. We do not know that we have heard of a single house, constructed especially for wintering, that did not become so warm as to neccessitate taking the bees out. Those who have reported, without exception we believe, favor the idea suggested by Mr. Quinby, of leaving them in the cellar until May, or until flowers bloom. To do this, we must have an extremely good cellar, and such are very hard to get, unless in dry sandy soils. Those who cannot have them, and who use bee houses, must get their bees out every warm spell, or must suffer loss by having the bees get out in the room, or worry themselves to death, by wanting to get out. Even after they are wintered safely, they dwindle down, and often get so weak that they are very little profit after they are taken from the house or cellar. The profitable stocks with us have been the extra heavy ones, and it is quite inconvenient to winter such in any repository with us. It has been said, *they* would do well almost any where. Now we wish to have an apiary of extra stocks, and we wish each one to do *extra* well; in short we crave an apiary just like the Quinby hive, and if we don't get honey, we shall certainly be able to sell good swarms for $5.00 each or less. We think not one unfavorable report has been received where a hive was packed as Townley directed us to do that one, and to test it well, we shall try the whole 36 in the house apiary on that plan, and 18 out-doors. The idea we have is that the chaff must come close to the cluster of bees, and must surround them on all sides; if you wish an illustration, tuck yourself up warmly in bed some frosty night, and then try the difference, by pushing the clothing a foot away from your body all around. One thing more, *we* can by no means take the time to pack loose chaff around the bees, and then take it away every spring; neither can we afford to buy five chaff cushions for every hive. Those in the house apiary, require but two, to put them in nice trim, and that we can stand very well. Those out doors, require but one and that is of course on top. The hives are two story, and as the chaff packing goes clear to the top, the frames must all be taken out from above without removing the upper story. To do this, we have the top story larger than the lower, and have the upper frames hang at right angles to the lower. We have decided on ten frames for the brood and wintering apartment below, and 14 for the upper story. In place of the 14 above, we can have 88 section boxes; but sections or frames can be used at pleasure without a particle of change being made. The chaff cushion half fills the upper story in winter, or completely fills it when one set of sections is on. The outer case is just two feet square inside.

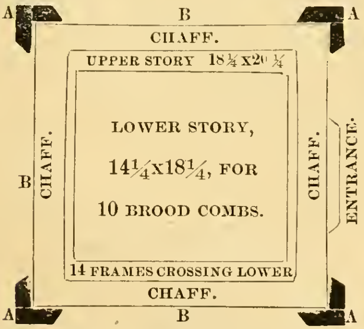
Now we felt we could hardly spare the money for the lumber for 18 such boxes, nor could we afford to take the necessary pains required to do nice work on them, yet we do want our hives painted and nice looking. Now see if we cannot interest you: at almost any lumber yard, very fair lumber can be purchased for $10.00 per M., but it is of all width and all lengths. We purchased some of this, cut it up into lengths of two feet, and then rippel these into 3 inch strips. Instead of cutting these strips squarely, we fixed a wedge shaped platform before the saw, so as to cut them on an angle, thus:



Let the figure represent a board of any width, and the dotted lines the way in which it was ripped up. After ripping, the strips were all cut through the middle as at A. With fine saws such as we use, these strips were smooth enough to paint, on one side, but without being planed down, they would be of different thicknesses. How shall we make a box of these, and have the outside smooth and even? We did it by sawing out corner posts from a three inch plank thus:

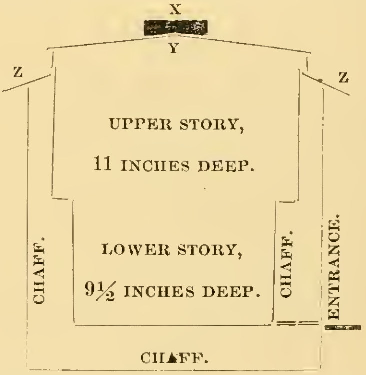


The saw going in from each side so as to leave a trough shaped piece. These corner pieces are very easily and quickly made on a board fastened before the saw at an angle of 45 degrees. With these corners, any one who can drive nails, can make a nice looking, weather proof box. The siding is nailed on the inside, so that not a nail is visible, and if the three inch plank were planed, the corner would be quite ornamental; even if you are so awkward you cannot saw your boards all the same length, it will make no difference, for none of the ends are visible. The figure shows the way in which the boards are put on; of course the bevels are for the purpose of shedding rain.

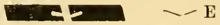


A A A A, are the seamless corner posts, and B B B, the home made siding, etc. The reason why we make our siding only 3 inches, is that our largest saw will only cut that depth. This half inch stuff only costs us ½ cent per foot, besides the sawing, and by turning the smooth side inwards, we can make a very pretty hive, to be set in these chaff boxes. Just think of it! An L. hive one story with bottom nailed, can be made with less than 3c. worth of lumber, and I have been making just such to-day. If you think such hives are not good looking when painted all up nicely, with the roof and corners a shade darker in color, perhaps we shall have to give you a picture of one. The greatest expense is the roof, and as the cover to the Q. hive is heavier than we feel like using, we shall make a permanent cover Z, over the outer box, and have the cover that is movable, only over the frames. As the upper story contains 14 frames, it can be used much like the long hives for extracting, the lower story being reserved entirely for the brood and wintering apartment. We have no fear at all that such a hive will be too warm in summer, with the large entrance we have given, and if we cannot find some way to keep the bees at work after we have a hive full, we shall be forever contented with the name of Novice.

If the apiarist can stand working in the sun, perhaps the grape vines may be dispensed with, and a little village of these permanent hives, would be a pretty sight indeed. We studied harder over a light cheap cover, made of this same cheap lumber, than perhaps any other part, and we wasted lumber, tin, time, money, and patience enough to almost make us sick, before we were perfectly satisfied with it, but we got it finally. After your lumber is all cut up 2 feet, rip up for siding only such as will shed rain, using the knotty and shaky pieces for the bottom of the hives next the ground. Perhaps ¼ of the whole will be thrown out thus; the bottom is nailed on the last thing, just after filling in the chaff, and to do this, the hive is inverted. After the chaff is well packed down, we lay on a piece of tarred building paper, then nail on the rough boards. This keeps out all dampness.



For the covers, sort out the best of the siding; run these over the buzz saw so as to cut each piece nearly in two in the middle. Now nail them to a 5 inch ridge board beveled inward with the buzz saw as at X, letting them bend at the saw cuts Y. To make the joints between the siding used for the roof water tight, groove the edges ¼ deep with a thin saw thus:



After the cover is nailed to X, lay it on the saw table, and trim it square and true, then slip in ½ in. strips of tin folded lengthwise as shown at E, slightly trough-shaped. These will never check being so narrow and the tin slips will allow them to shrink and swell, and yet the cover is very light. Z is the permanent roof that covers the chaff, and it is made with a lip on the upper edge, that just reaches up inside the strips that are nailed clear around to the under side of the cover. This lip is easily made with the buzz saw, and the four pieces Z, are put together like a picture frame, before nailing to the top of the hive. Bees in these hives will need no care whatever *we hope*, from October, until May following.

# Blasted Hopes,

## Or Letters from Those Who Have Made Bee Culture a Failure.

DEAR GLEANINGS:—I have spent the day in reading GLEANINGS for October. To say I am *sick*, would be a faint expression of my maladies, after reading the favorable reports of all bee-keepers all over the Union, and then comparing my condition and experience this year. Could I but tell you one half our troubles in this vicinity you would at once condemn us all; I mean a vast range of country, to the list of Blasted Hopes. But no, I have hopes in the future, though I may have to import bees to commence with next spring. I wrote you in the fore part of the season in good spirits and with great hopes of a prosperous season, and now I write you with blasted hopes and ruined apiaries.

I cannot see what our people have been guilty of that we should be thus deprived of all the sweets of natures nectar so bountifully bestowed upon the rest of the world, yet it seems to be so and as it is the decree of providence, we must not complain. To illustrate I will give you a slight history of my home apiary and that will be a fair illustration of three others I have in other parts of the country.

In June our bees were doing well, nearly all full and all sealed honey and brood in the main hive and some had commenced in the boxes. But alas! Their work was done, they commenced uncapping and consuming their stores and by the last of July there was very little sealed honey in the hives, breeding ceased and all were idle. In August some commenced filling the empty comb and some starved and left their hives; some left the hive after having returned several times, clustered on fruit trees and died. Others forced other hives and were killed and none have now sealed honey at all. One of my neighbors had ten stands in August, and in September seven of them came to my apiary and were destroyed. I examined the hives they left, not one drop of honey or pollen was there. The latter part of September my own bees began to leave their hives and enter others, and thus many were destroyed. The 13th of October caps the climax; a lady asked me if I knew my bees were swarming, behold the air was full of bees. Soon they selected a hive and commenced entering. I closed the hive and they settled on the top. I secured the queen, supposing they would return to their hive, as the lady called to me that there was another swarm out. They settled with the first; I soon found their queen and secured her. As I caged the queens and returned to the bees another swarm was settling with the two first. Their queen was soon imprisoned by the bees and I caged her. On my return to the bees another swarm of my own was issuing and settling with the three. I soon secured the fourth queen, and by the time I had her securely caged, behold, here comes the fifth swarm, apparently from the woods. Now, my friends, if any of you can, in the month of October, pile up five swarms of bees, and secure and cage five queens in fifteen minutes, you may take the horns. My bees returned to their respective homes and I restored their queens. The other two I gave a hive and both queens with some honey in comb.

Now what could have caused this flurry with the bees? My own had honey, but very little sealed; one of the others came near half a mile, and the fifth one, I think, came from the woods. I suppose it was the prospect of starvation. In nearly two hundred stands under my control, I do not think there are ten that have ten pounds of honey in the hive, and many that have not five; some not three, so you see I am a legally nominated candidate for blasted hopes next spring, but I will not serve if I am elected.

### WINTERING BEES BY BURYING THEM.

Some time since I promised to give a sure process of wintering bees on short allowance. In the fall of 1874 I had seven stands of bees in box hives on a farm on which I had a tenant who robbed them so close he killed two of them before frost. The others were alive and we found on examination two had not over three pounds of honey each, and the others not over eight. As I was giving directions how to arrange things for the winter he said: "What shall I do with the bees? Bury them?" Said I, "Bury them as you would potatoes. Dig a pit two feet deep, put the bottom board in the bottom, set the hives in and fill around them with dry leaves or straw to the surface of the ground, then shovel on the dirt until you are sure the frost can never reach them; then lay up some rails around so nothing can disturb them, and cover with boards that the dirt may be kept dry; make a shallow drain to carry off the water, that it may not soak into the pits, and your work is done until the middle of March. Then resurrect them and set them in their respective places." He followed my directions to the letter and I never saw brighter bees in my life than they were in the spring, and they were far ahead of strong full colonies that stood on their summer stands. I buried five stands last winter, which did better than any in the vicinity.

A. J. SAVAGE.

Lakeville, Stoddard Co., Mo., Oct. 15, 1876.

The picture is truly a most disheartening one, but there is a sure and certain remedy, if we can only have the courage to buy the sugar. We usually have a dearth of honey in our locality that brings about just such a state of affairs, if something is not done to keep brood rearing going, and to forestall swarming out. The first colony we ever owned, was one that starved out in August. The remedy is to keep a barrel of cheap sugar in some sheltered place, and let the bees work on it whenever they will take notice of it, and you can rest assured they will not go near it whenever forage of any kind is to be had in the fields. Our own barrel was unnoticed this season after clover was fairly out, and they did not go back to it until late in September. Tip the barrel on its side, and when they get it worked over into fine dry sugar on the surface, roll the barrel partly over, to give them a fresh surface. It will give constant employment to all troublesome robber bees, will keep any colony from starving, will prevent your bees from ever going into the groceries for sugar, or from swarming out, even if you forget and neglect them, and it is probably the cheapest food that can be given in warm weather. The thing for our friends to do now, is buy sugar and get some confectioner to make it into candy for him. The candy after many experiments, seems to be rather preferable to loaf sugar, yet it might be well to give lump sugar a trial, where so much feeding is to be done. Such seasons are liable to come in any locality, and it would be well for us all to be on the lookout for them. Buy the sugar by all means, for your bees will in all probability pay it back next season in three or four days. To carry them through will not exceed $2.00 worth of candy on an average, even if they are doubled up so as to be good strong colonies. If buried or in a good strong cellar, perhaps half the amount.

We opine this burying will only answer in dry sandy soils, for in our own clay soil, it is almost impossible to keep such a pit from being damp and wet. Where successful, all seem to agree that the amount of food consumed, is very trifling.

# Heads of Grain.

## From Different Fields.

MY second story is a hoop six inches deep. Instead of frames, I propose to use slats of the same width as my section boxes. The section boxes are to be fastened to the underside of these slats, by means of double pointed carpet tacks; one point being driven into the edge of the slat, the other, into the edge of the box. One tack on each side will hold the boxes perfectly tight. These boxes can thus be fastened to each slat, a piece ½ inch square is to be laid across the frames to give support to the middle section box. Thus arranged, the boxes, three at a time can be easily lifted out for examination, and replaced if necessary. If the section boxes rest directly on the frames, or cross slats, it is difficult to replace them, owing to the propolis with which they are fastened. I propose to put strips of glass 2 inches wide, and 10 or 12 inches long, in the sides of the hoops so that I can see what the bees are doing without the necessity of smoking them. What think you of my plan?

The idea is novel, and may prove a very good one. We think no support will be needed in the middle, for the boxes will be tightly gummed together before they are filled, and they will in this condition give stiffness to the top bar. The great objection, will be the propolis that covers the bottom and ends, which mars so much the beauty of the clean wood, and the bits of wax that will be, with some stocks, built between the sections and frames. We find much less of this propolis in the house apiary, and have just been wondering if it were not because it is so much warmer. Thin stuff to go all round the sections and protect their exterior, such as Doolittle uses, would be nicer, but it would take up room in the hive, and add to the expense.

If I destroy queen cells just before swarming time, can I thus certainly prevent swarming? Will a second examination be necessary? Is it advisable to pursue this course?
J. H. P., Franklin, N. Y.

By no means, for the Italians often swarm without the sign of a queen cell. A second examination may help the matter, but will not make a sure thing of it. We believe it has been voted that cutting out the queen cells is not much to be depended on.

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I was agreeably surprised when I learned that you had sent me a colony of your bees, and could scarcely wait until they arrived. I received them yesterday at noon—Thursday—and at once took them out home. In opening them I was very fortunate, being stung but twice. As far as I could tell, they carried very well. At 3 o'clock in the afternoon I received your postal and queen, the former explaining the latter. I was somewhat alarmed then lest the bees might go away, being queenless, and consequently hurried out home to give them the queen. I did as you directed on postal and will liberate her this evening. I am very well satisfied with them, and feel somewhat like the boy with his first whistle. I came very near "giving up the fort" yesterday afternoon by running; I had three bees on two fingers, each one stinging me. This makes five times, and I will soon become accustomed to the poison at this rate!

Will this colony swarm again this year? You say there are about fifty pounds of honey in the hive. Do they need all of this for winter? Would it be best not to take any of it out? I could not complain of the price at all, considering the honey and the hive. The express charges were $3,00, making it cost me $18,00, which I will not begrudge if I can but winter them safely.

My bees are working nicely now. Saw the queen today, the first time since I put her with them.

Do you ever sell queens? At what price could you sell them?
E. B. THORNTON.

Bedford, Ind., Aug. 7th, 1876.

About the last of July we took a notion into our head that if we wished to answer the many queries in regard to shipping bees we had better make some practical experiments, and an order coming to hand opportunely, we fixed one and sent it along. The colony was too heavy to be crowded into one story, so we moved the hive, and put our new one in its place, putting in all the brood combs, and as many bees as we could get in. To our dismay there was hardly even a brood comb, that was not so heavy that we feared it would all be smashed down during such hot weather; we fixed it to our notion, and sent it away, but when it was weighed, we found there must be something like 50 lbs. of honey. That was not all the trouble; we gave the remaining bees the combs that had been in the upper story, and a queen cell, but by the way it was soon torn open we knew they had a queen, and she proved to be the one that should have been sent with the swarm. Wasn't that bright! Sending the queen by mail, and the bees by express! Now we determined to see if Doolittle was right in saying the honey would be moved into the section boxes above; so we gave our colony another cell, and watched their behavior when the queen began to lay, for there was hardly a square inch of empty space for her to begin work in. Sure enough they did move the honey into the sections; hardly as much as we expected, but they are now a pretty fair colony, with solid walls of honey on every side of their circle of empty cells where they will pass the winter. We shall report the effect of so much honey for wintering.

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I wintered last season, two small nuclei (on four Gallup frames each), and as they increased in the spring, gave them larger hives and *empty* frames, until, on the sixth inst., one of them threw off an enormously large swarm from a crowded two story hive, notwithstanding I had several times extracted all their honey and destroyed queen cells to prevent swarming. Vigorous treatment of a like nature has with difficulty restrained the other from swarming. I have no more prosperous colonies than these two. One year ago last winter, I wintered two nuclei in the same small hives, with like results in the following spring and summer.
G. E. CORBIN.

P. S.—On the 18th day of May last, I destroyed every queen cell in a prosperous colony, which nevertheless, swarmed out on the 20th. Since that time they have filled 12 gallup frames with *comb* and *brood*, and swarmed out a second time. These bees are hybrids.

G. C. St. Johns, Mich., July 10th, 1876.

Will you please tell us friend C. just how you prepared those nuclei to winter thus, and where they were kept; just now it will be quite an interesting item.

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I have 2500 lbs. first quality linden honey, extracted for which I will take 10c per lb., and 2000 lbs. fall honey at 9c; fall honey is good.

GEO. M. DALE. Border Plains, Iowa, Oct. 4, 1876.

The two 50c lath hives that you sent me came throu' all right at last, although they were a long time on the journey (freight charges $1,45). I went to work on your specifications given in June No. of GLEANINGS, got up three or four lath hives and had bees in three of them before yours arrived. They appear to be just the the thing for hot summers like this, but just how they will stand one of our Illinois winters is the next question. Will oat chaff be the thing?

Bees began swarming earlier than common here this season. Had the first swarm May 30th. This spring, I had 18 stocks, native bees, lost none last winter; all remained on their summer stands. By the middle of June or 20th at farthest I had as many good strong young stocks as old ones; and by the 10th of July, they were just three to one! my first swarm having turned off a swarm which I think will fill their hive. But the most unusual thing with me is, I had not one swarm to leave the hive after being put in, nor one *go* off, or leave for the woods.

W. LEWIS, Kappa, Ills., Sept. 14th, 1876.

Take away all frames that remain unfilled or that contain but little honey, and close up the side boards so as to occupy as little room as may be; then cover the whole with such cloth as is used for grain bags. Transfer them thus prepared into an empty box, and pack chaff all around. Fix the entrance to exclude mice, but so the bees can pass, and be sure the boxes have a good roof to keep the chaff dry.

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Honey trade has been very lively of late. I have perhaps never sold as many barrels of honey in one month as I did during this September.

CHAS. F. MUTH, Cincinnati, O., Sept. 28th, '76.

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The idea that a young queen will lay but few drone eggs is quite erroneous. That *young* queens generally do not lay as many drone eggs is no proof that they will not under favorable circumstances. I have been testing this theory for three years past and I *know* my young queens lay as many drone eggs as the old ones, and that too in one week after they begin to lay. I have had many swarms issue in from one to four weeks after the queens began to lay. The necessary conditions are strong stocks and fine weather. It is said the queen seems discreet when honey fails. I add, the bees are more so. Prof. Cook also says that an egg is placed in a queen cell either by the queen or the bees. I have tried in vain to induce bees to remove eggs from combs to queen cells.

R. S. BECKTELL, New Buffalo, Mich.

You are uncharitable friend B. Bees at times work strangely at variance with their habits as laid down by others, but we should get into an awful row, if every one of us said he did not believe anything that was contrary to his own experience. We rarely find a young queen laying drone eggs the first season in our apiary, and we quite frequently find eggs moved by the workers for the purpose of queen rearing.

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In reading the article "Hives used by our leading bee-keepers," I am reminded to send you a part of an end to a "Quinby frame." You will perceive the sides of it are protected with tin; and it certainly has this advantage, that the wax can be scraped off quite easily and quickly. Please comment. What I want is a hive in which I can winter my bees on their summer stands. It seems that friends Davis and Townley have done it, and you have done it with "Quinby's hive." Now let us have a hive to which we must add only the packing in the fall. Who besides Quinby has it? Box hives are the rule here know of only one man besides myself who has movable comb frames.

L. H. W.

Marlboro, Mass., Sept. 21, 1876.

The tin would prevent making the close tight joint that we get with the wooden bars, and would make the hive much more expensive; the idea is not a new one. We can surround any kind of a hive with the chaff packing, but we opine to get the full advantage of it, it should come up close to the bees and combs, as it does when we simply cover the frames with a coarse piece of cloth. To do this to the best advantage, is as yet an unsolved problem.

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After reading your "Experience with smokers," I concluded to give you a description of one I use. Make a quart cup without solder; near the bottom, in side next you when holding it in the hand—I prefer holding it in the left hand—make an inch hole, or a number of smaller ones, over which arrange a slide to be closed when not in use. Then make a close fitting lid with a slot in the center, ⅜x1 inch. Next make a conical tube 8 inches long, ½ inch in diameter at one end and 1 inch at the other, with a slot in the middle to correspond with the one in the lid. Solder the tube to the lid and it is completed. By placing the small end of the tube to the mouth and gently blowing, you can send enough smoke to any part of a hive for ordinary use. When you get among "dark hybrids" and find a sauce pan necessary, take off the lid and you have it ready.

E. S. EASTERDAY, Nokomis, Ill.

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I started 1st of May with 54 stocks in fair condition; very poor season up to last of May but very good since. I increased to 130 and took 3600 lbs. honey, about 1200 box, balance extracted; my bees are all in extra condition for winter. I had but one swarm go to the woods.

GEO. W. KENNEDY, Carrollton, Mo., Sept., 21, '76.

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I use a straw lined hive and like it much. I commenced the season with 14 stands, lost 2 which were not in straw lined hives, in wintering. I have increased by natural swarming to 28 strong stocks, and taken 900 lbs. of honey, comb and extracted, which I have sold at home for 18 and 20c per lb.

How do you keep the sectional boxes together? That is, where you put 30 of them on a hive, how do you keep the end boxes from falling over before you put the cap on? Do you make them different sizes?

E. J. SCHOFIELD, Nashua, Iowa, Sept. 21, '76.

Most of our hives have upper stories, and as we get at the sections by simply removing the light cover, we have no such difficulty as you mention. Those made with caps for honey boxes, were worked by using thin boards to close the ends of the sections; these thin boards can be kept in place until the bees fasten them, by a string around the whole. The bees should never under any circumstances be allowed on the outside of the section. Can make sections of any dimensions.

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I received and read your August number, advertisements and all. Thought I would give a little of my "bee" experience. One year ago last winter I had but 10 swarms live through, and they were *all* very weak. I increased the number to 40 during the summer, and in the fall took off about $100,00 worth of nice box honey, or an average of $10,00 to each hive; besides the increase of three swarms to each one. My 40 all lived through last winter, and were all good and strong this spring. I use the American hive principally, and let them remain on their summer stands. I had 25 of my Centennial hives made last spring. They are my own invention, but A. G. Hill, of Kendalville, Indiana, was here this summer with a very similar hive.

Bees did very well in the spring, but swarmed too much, as I was not well enough to keep the honey extracted from them. They have increased to 100 now. I have sold some, and a number went off when I was not watching. Had a number of second swarms that threw swarms again in July. In one such I put an Italian queen the day it swarmed; and in just three weeks from the time I let her go, there was a swarm out that went back, and on opening it I found young queens just hatching; showing it had swarmed, and my nice "boughten" queen had gone to the woods. In introducing queens, I one day let one go out of the cage on a frame that I had had hanging out of the hive, to see how she would be received, and in about a minute *away she flew;* I watched her until she got high up in the air, and made up my mind that *she* was gone. But I immediately took out all the frames, shook the bees down in front of the hive, and kept them making a noise for 15 or 20 minutes. In the evening I examined the hive, and to my amazement found her all O. K, and the bees are now yellow and pure. I found a queenless hive about the 20th of July, and put in a frame *full* of eggs; on looking in a few days after, there was not a thing in the frame, they had eaten every egg. I put in another frame with eggs and larvæ, and they commenced queen cells at once.

HOW I RAISED (?) ITALIAN QUEENS.

I had one rather choice queen and I divided the swarm, seeing the "old lady" at the time—and when the cells were ready, used about 15 or 20 of them in as many hives, and they all turned out *hybrids.* On examination I found my "fancy" queen had been replaced by another, just as nice; but her progeny were only—*hybrids.* Did not say any naughty words, for I was not competent to do the subject justice.

I had expected to get 2 or 3000 lbs. of box honey this fall—as we usually get most of our honey from golden rod in September—but alas, it is so cold, and *raining every day*, they can't work, and the out look is bad, *decidedly* bad.

And now one other matter; I see you rather try to fix up "*John Long's*" trickery. If he is the party the *A. B. J.* says he is—Wm. Hoge formerly of the "Chicago Honey Co.," I pronounce him a *scoundrel.* In the fall of 1873 I shipped him my honey, worth $125,00, on the recommendation of Adam Grimm—poor man is gone now, and he never heard of it—and said Wm. Hoge has never paid a dollar of the claim. The honey was sent about the time he formed the partnership with Mrs. C. O. Perrine, soon after her name was changed to S. E. Spaids. She paid $25,00 on the account the next spring, and made many promises, even after she went to New York city; but "nary red" did I ever get. I understand she has left there, and gone South; to what place I was not informed. She said *he* ran away taking all the money, and left her to pay the debts. Now if he is *not* a *scoundrel* pray what would *you* call him? I was then, as now, in very poor health, and that honey represented my year's labor.

V. M. Chaplin, Pierceton, Ind., Sept. 13, 1876.

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Mr. Doolittle says his bees gathered his surplus in 8 days which would be, a little over 6 lbs. per day, counting 68 old stocks, say nothing about surplus from young colonies. I have had some experience in bee-keeping, but never have reached that amount from old stocks that swarmed. My greatest surplus has been from young swarms that came out early in the season. Bees in this section of country have gathered a small amount of honey. My surplus this year is mostly buckwheat or dark honey. Golden Rod has been a failure this season. Two years ago my bees gathered in Sept. 100 lbs. of nice Golden Rod. Some would call it clover.

Lyman Legg, Rose, N. Y. Oct. 8th, 1876.

The only way we can make a report avoiding a complex list of details, is to state the amount of honey, and the increase. We cannot see that it matters whether the honey is all made by the old stocks, or the new; the idea is, we commence with so many hives, and get so much honey. In Mr. D's case, very likely the new swarms made half of the eight lbs, which would leave but 4 lbs. per day. There is one other matter, which we fear is much over-looked. Mr. Doolittle's honey box or section is made with hard wood ends, which are quite heavy; add to this two sheets of glass to each comb, and it would be nothing strange if nearly a half ton of the 2994 were wood and glass. If his customers are willing to pay for all this with their honey, it is certainly all right, but we fear they will stand a poor chance when placed by the side of honey put up in sections of very thin light wood like the Universal, unless it is for a fancy city trade. Honey in small fancy glass boxes like that described in P. S. to honey column, on page 49, would not bring half cost in our market now.

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Would it be profitable to commence bee-keeping with one hive, in a small yard in a city of 30.000 inhabitants?

T. S. Closson, Trenton, N. J.

Bees will thrive in the heart of the largest city, and we have many favorable reports from such colonies. Our friend Muth, who is one of our most successful honey raisers, has his apiary on the roof of his large store in Cincinnati.

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From 44 L. hives packed in chaff last winter, I have taken 2250 lbs. extracted, and 1211 lbs box honey; an average of about 80 lbs. to the hive. Have taken 32 lbs. of wax, and sold $25.00 worth of bees. It cost me about $60.00 to put them in good wintering condition. I have sold about half the honey.

J. W. Utter.

Amity, N. Y. Oct. 4th, 1876.

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This summers experience with movable frames has somewhat shaken my faith in the old fashioned management of bees according to my plan, except for small apiaries of 20 to 50 colonies. For these I am firmly convinced there is no hive equal to the triangle with comb guides lengthwise with the top. But for the purposes of a larger apiary, where a man devotes his whole time and attention to Apiculture I am inclined now to believe there are no improvements thus far to equal the movable frames and the honey extractor. I thus conclude from the array of men of character who advocate these improvements, men whose positions forbid the idea of their being either knaves or fools, that the system of bee-culture and the hives they adopt must possess intrinsic merits not yet known to bee-keepers who have not fairly tested both plans. I also arrive at the same conclusion from my past experience with frames. Yet I am fully satisfied that a small apiary and a triangular hive with suitable section boxes is infinitely preferable for the senior Apiculturist. If I ever should be convinced to the contrary I will readily "throw up the sponge," for I can bear a beating as coolly as any man in the world. I accept the couplet of the late Dr. Armstrong.

"Be not the first by whom the new is tried,
Be not the last to lay the old aside."

If the movable frame hive is what is claimed for it, Langstroth is entitled to the applause of the whole Apicultural community, for he certainly wrought the greatest revolution in bee-culture of any man in modern times so far as my knowledge extends. Huber, Hunter, Aristotle, and many among moderns have written their observations on the Honey Bee and the "Economy of Bees" generally, but if the frame can accomplish all that its advocates claim for it, then Langstroth has crowned himself with a wreath of laurel by utilizing the mechanical operations of the insect, and raised the bee-keeping business to a profitable vocation by which thousands may acquire a livelihood. If the frame is what the apiculturist of the day claims, why is not Langstroth canonized as a benefactor? Why wait until he is dead, and then shower upon his memory the thunder of applause that should have greeted him while living? Why let him pass away like Fulton, without appreciating his merit? Why does every journalist quietly see him stripped of the pecuniary advantages, which he should have enjoyed from his inventions, by every adventurer who may keep bees, and chooses to trespass on his patent? These queries may now appear out of place, and may not excite much contrition, but in the distant future, Langstroth will be enrolled high on the scroll of that peculiar fame which has made men immortal who have achieved great strides in progressive improvements in rural and agricultural science. GEO. B. PETERS.

Council Bend, Ark., Oct. 7th, 1876.

We heartily endorse all that is said of our friend Langstroth, and would suggest that all who feel indebted to him, send to him direct what they think right; and we do not see why this cannot be done without the matter being made public at all. If it is genuine gratitude toward him, why should we care to have the world know of it? Heretofore much has been done in the way of talk and resolutions, but there it nearly all ended. Now can we not, without a word more—pay a just debt?

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GLEANINGS has been received and duly perused. My experience the past season has been about the same as that described by Doolittle. My bees took to swarming in August, when I did not want them to. They swarmed, in my opinion, without cause or provocation. Extracting, increased space and shade seemed to have no effect on preventing swarming. I had six swarms in one week, five of which were somewhat like Heddon, "went back" on movable frames, extractors and all, and struck out in the world on their own hook. I suppose they have in some place gone into business upon the old plan, the same that was followed by their ancient ancestors. My average per stock this year was not nearly so good as last, being only about 40 lbs.; but it is very thick and of excellent quality.

I should judge it required 6 pieces for a section box. If I am correct, I will take some next spring. The sample labels that you sent me, I think would be nice for tumblers. Do you use square or round ones? I have seen square jelly tumblers with a flange on two sides, and a tin cover with the edges turned down so as to slide on the tumbler.

ED. WELLINGTON, Kimpton, Iowa, Oct. 9th, '76.

As we make the Universal section at present, it takes 6 pieces, but we shall before another season, arrange machinery to make the uprights in one piece. This will make them stronger, and easier to set up. We hope to be able to make them of any dimensions for 1 cent each, where 1000 are ordered at one time. Have never seen square tumblers; will those having them please advertise?

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On page 210, Oct. No., J. W. Shearer says of buckwheat, "The old Black is a better honey plant than the Silver Hulled." I think to make it correct he should say in *some soils*, and *some locations*. I always get four times as much honey from the Silver Hull as from the Black. I think every bee-keeper should try both kinds and see which is best for his soil and climate.

My bees are doing well. I got from seven old stocks and two young ones, $40, worth of honey and they each have from 25 to 50 lbs. of honey for winter stores.

D. N. KERN, Shimersville, Pa.

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Which is best, natural, or artificial swarming?

R. G. PETERS, Manistee, Mich., Oct. 11th, '76.

As a general thing we believe artificial swarming is considered best, without doubt, yet many circumstances are to be taken into consideration. A new beginner, who should undertake to make swarms out of season, would doubtless do better to let the bees follow their own instincts; but one who knew just what to do, and when to do it, would without doubt, make a great saving by taking the matter into his own hands. If our object is comb honey, it may be best to discourage swarming; in such a case we would get all at work in the surplus frames possible, and if abundant room and empty combs would prevent swarming, well and good; but if swarm they would, we would consider that the next best thing, and set them at work as speedily as we could. In such a case, we should of course have none but natural swarms. Where increase of stock is especially desired, we think as we said at first, the artificial ahead. If our friend who comes next will tell how *he* managed, it may help the matter.

I stand alone here in bee culture. When I left Chariton, Iowa, last February, I sold all my bees except one colony which I shipped to this place; from that one I have taken 450 lbs. of honey and made 13 colonies, all in good condition with from 10 to 16 frames sealed honey and brood. How is that for bleeding Kansas? If any one can beat that let them waltz to the front.

J. S. MARKLE, Chanute, Kan., Oct. 11th, '76.

The above is certainly "tremendous," but with a rousing colony in the spring, and an uninterrupted flow of honey the whole season long, such as we have almost had here, it it might not be so very difficult after all. We hope to give full particulars soon.

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Have you ever extracted any locust honey knowing it to be such? I got about 250 lbs. this year and will send you a sample if it will be any thing new to you. It is much lighter than white clover and more mild in taste.

Honey is selling first rate now that cool weather has come and I think the trade will improve as the season advances. I have my bees fixed for winter which with us consists simply in removing second stories and putting the straw mats on with inch strips between them and the top for ventilation and leaving them on their summer stands; have never lost a colony so fixed.

H. E. CURRY, Cincinnati, O., Oct. 14th, '76.

We had quite a crop of locust honey in 1870, and at that time had quite a fancy for planting a locust orchard, but as we have scarcely had a taste of it since, we fear it is not a very certain source of honey. Thanks for your offer; we agree with you that the honey is of a very mild and pleasant flavor.

I wish to move my apiary a distance of about 600 yards sometime next season. Please tell me when is the best time to do it, and how to proceed in order to prevent the bees from going back to their present situation.

Cyrus McQueen, Buena Vista, Ohio.

Choose a time in the winter or spring, after they have been confined to their hives for several weeks, and place them quietly on their new stands before they have had a fly. If they should be so much disturbed as to come out while being removed, many of them would be lost, but if they do not come out until the weather permits, nearly all will adhere to the new stand, providing they have not had a fly for a couple of weeks or more. If moved in warm weather, most of the stocks will be seriously injured.

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We extracted 110 lbs. of honey the first afternoon we received the extractor from you. It was all taken in about an hour and a half from 4 stands of bees which had so filled their hives as to leave no room for the queen. All the brood they had was in 3 or 4 frames while others had from 7 to 9. We also received the balance of fdn. comb in as good condition as it was shipped and were well pleased with it. This being of a better quality, and heavier, is not so liable to warp after being placed in the hive. We went into winter quarters with 102 stands of bees all in movable frame hives. We had 56 in the bee house, 11 on summer stands and 35 in the cellar. We lost 4 in the bee house, 3 on summer stands and 2 in the cellar. Two being queenless we united them with others and sold 7 this spring, leaving us 87 with which to commence the season's work. Up to this date we have 33 new stands all being first swarms. You may ask how we managed to stop second swarming. If we have young queens, we put them in after they swarm and take the royal cells to be hatched for the next that swarms. This usually prevents second swarming. To make sure work of it, examine in nine days and if there are more royal cells, repeat the operation. If no queens are on hand wait 6 or 7 days, then take out all the royal cells except one; see in five days whether the one left is hatched, and if new ones are started destroy them; but in all cases be sure you know the one you left in hatches. If you wait so long that the queens are peeping, before taking out the cells, they sometimes swarm out and leave no queen in the old stand, and no way to raise one.

Now I must go back and tell you about the honey of our bees. There are 73, all working in boxes. We have 16 to 24 four lb. boxes on a hive and think they will be all sealed before basswood is over. How did we get them on? They are made so that it takes 8 to cover the hive by taking off honey board, and there is a two inch hole in the top and bottom so we can set them top of each other one, two and three tiers according to the stand.

We think we will have to extract the honey from the rest as we did from the 4 when we got the extractor. They seem to work like new swarms since.

I have been reading different methods of putting comb fdn. in frames, and think the best way is to cut the comb one-half inch smaller than inside of frame and fasten with glue to the top of frame. If the comb is tender and thin, put two little strips one inch from the bottom of the comb on both sides to keep it from warping.

Henry Krupp & Bro.

Warren, Warren Co., Pa., July 12th, 1876.

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You have been paying some rather large bills for damages. I too might bring in a bill. The extractor you sent me broke, the handle of the honey knife came off, and the fifty quilts I got of you, are all too small, by 1 inch each way; but what of it. I took the extractor to the tin-smith and got it mended, I can put a new handle on the knife myself, and the quilts, the women folks can piece out, so it can all be fixed up without sending in a bill of damages. I think this is the way things *should* be done, instead of *one* having to do it all. My honey crop this season was 320 lbs. of extracted honey.

W. P. Irish.

New Portage, Summit Co. Ohio.

We are very glad indeed, friend I., to have our friends tell us how our supplies answer the purpose, and when they volunteer, to stand the inconvenience of making good any little faults with our wares, we take it as especially kind, and as a mark of real friendship. Where the loss is clearly the result of our own carelessness, we, as we have often said, prefer to make the article good. As a general thing, we think it our duty, to take back goods that are defective, or to return the money paid us, if the goods will not warrent returning; but of late there have been one or two claims that we feel are hardly fair, and that we really cannot stand. As a parallel case, we will mention that our confectioner last fall slightly burnt some of our bee candy in making; this resulted in the loss of two or three good colonies of bees. Should our confectioner pay us $25.00 for these bees? We could not feel that he ought, even if he had been somewhat careless, for he certainly had no idea that it would kill them any more than had we, and although we thought he might if he chose pay for the candy, we felt no unkindness toward him when he made no such offer. The seeds we sell, we take great pains to have pure and good, and if they should prove otherwise, we are ready to return the money paid us, but we can under no circumstances undertake to pay for all the trouble that our customers have been to in preparing the ground, nor do we ask as much from any of whom we purchase. When we proposed to pay damages on the fdn., it was without thinking that a bill might be presented larger than the amount paid us for the goods. If those who choose to try it are disappointed, we will take it back and refund the money, but we can do nothing more. The doubtful ones had better try a little at a time, and we supposed of course all would test the article on a small scale, before investing largely.

We have had but one complaint before, of knives coming out of the handle, but we are very glad to be told of it, for we can now give notice of the fact to the workmen who make them. Also in regard to the quilts; we made them we supposed just the dimensions given, but as they are much better too large than too small, we think we will in future allow a little more for shrinkage. If any faulty soldering is found in our extractors, we prefer to pay the expense of making it good. Please tell the "women folks" we tender them our compliments friend I., for we too have had experience in piecing out quilts.

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### HOW TO CATCH ALL THE ANTS.

Take a common glass fruit jar with a tin top held on by a wire. With a small awl make holes in the tin top precisely as you would to make a bee feeder; fill the jar half full of honey and water and place where the ants are, or bury in the ground near the hive infested.

C. L. Stratton, Knoxville, Tenn.

In answer to J. Johnson's query on page 56 of GLEANINGS, I will say that I have used D. L. Adair's section boxes for six years, sections 5x6x1½ inches, 9 sections in a clamp, and to be sure of having straight comb every time, the guide comb should be at least 4 inches long, or better, the full length of the section. The depth does not matter; they will work straight if there are only two cells, and those mashed flat, if the centre ridge is left straight. If a short piece is used, they will often run crosswise and sometimes, in half circles.

My bees have been working on shipstuff and corn meal every warm day since the 2nd, of January; and I have found out to a certainty that queenless stocks will not work on meal. I have two hives that have not carried a single load this year that I can discover, and they are both queenless. Last year I had 40 stands and the first really good day they had to fly was after the middle of March, and that day they carried in 10 lbs. of bolted rye flour mixed with coarse wheat bran. To keep them from swamping I watched them closely, and two hives did not touch the meal, though they were flying as briskly as the others. On examination I found both were queenless, and they were the only ones in the apiary.

C. T. SMITH, Trenton, Ills. March, 11th, 1876.

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Your Sharpville correspondent does not like the metal corners. Strange! I do not use them, because they will not fit my frames, but if I had reason to make or try new frames, I should certainly want the metal corners. Thus fortified the frames cannot get out of shape by any fair usage, and they must hang perpendicularly and uniformly and stand from each other without the neccessity of driving shingle nails into or inserting wedges between the bottoms to keep them apart. J. H. P.

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I am a novice in the bee business, purchased 75 colonies in May last, of Mrs. Adam Grimm. I do not get a pound of surplus honey but have increased to 149 colonies, and at present find my hives *crowded* with bees, but with only an average of 15 lbs. of honey to a hive. I take GLEANINGS, and it has inspired me to ask your advice. The weather is very cold, and has been for three weeks past. What shall I feed, syrup or candy? If candy, how much, of the kind you make? I fear to feed syrup if cold weather continues. Would you try to feed up to 30 lbs. per hive? Space or time will not permit asking questions. The situation is, 149 colonies of bees very strong, 15 lbs. honey per hive, winter coming on, weather bad and cold. Hives, 8 frame Langstroth—winter in cellar. How long does it take to ship candy from your place here?

DR. S. J. SAWYER.

Fort Atkinson, Wis., Oct. 5th, '76.

You made a rather bad start we fear, for a Novice, friend S. If your bees increased so much by natural swarming, you are perhaps not so much to blame, but at the present low prices for honey, it would be prudent, to keep your bees at all times with enough ahead for winter. In other words, remove filled frames and lay aside for just such contingencies, until you have enough to be safe, and then keep increase of stock within such bounds, that you are always safe. These frames of surplus stores need not neccessarily be removed from the hives, but may remain until October in the upper stories where they will be secure from moth. So much for prevention; the next question is, what is now to be done in the way of cure. As fifteen lbs. will carry almost any colony to April 1st. or until they commence brood rearing, the case is not so very bad after all. A *very* strong colony, *may* consume twenty lbs, but fifteen lbs. of sealed honey will *winter* any ordinary stock of bees; when their hive is full of brood, they will need the other ten to take them in good strength up to fruit blossoms, but none but the very populous, can use any such amount. Although it is said that syrup can be safely fed to stocks carefully packed in chaff at any time in the winter, yet we would not advise it after the first of November. All stocks that are deficient now, we would give candy, and if considerable is wanted, you had better get your nearest confectioner to make it for you, and thus save the freight or express you would have to pay us. If he will not make a nice pure article for fifteen cents, perhaps you had better send to us for it. To feed, place it directly in, or over the cluster, and cover it over well with a quilt or chaff cushion. You can feed it in the spring, or now, as you choose; the former will give you the use of the money 90 days or more, but the latter if delayed too long, will let them starve: a very poor investment for a bee-keeper to make. Bees can now be supplied with food much easier than any other kind of farm stock, for enough candy can easily be given at one time to last a month or more, and it can be given safely, any month in the year. Some of our very best colonies were last season wintered with their stores at least 3/4 candy, and we tried it on a sufficient number, to demonstrate perfectly its safety. Even if the colonies were put in the cellar, we should give them chaff quilts, and keep them well protected in the same way, until they were ready to work in surplus boxes or upper stories.

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A circumstance came under my observation that seems to support the opinion the late Mr. Quinby at one time held, as to the origin of foul brood (by a sudden chill). I had in June, divided a swarm of black bees for the purpose of getting queen cells on a comb from pure Italians and I did not set the old stock far enough from the old stand, to prevent most of the old bees from going back. The weather being warm, I thought the sealed brood would soon furnish bees enough. In about two weeks I noticed that the brood in the outside comb did not hatch properly, and gradually holes came in the caps; I then examined closely and found, perhaps 100 cells of dead brood, showing all the characteristics of foul brood as enumerated by the books. I picked out all such, and left the comb in for experiment, there being then no danger of its spreading by robbing. I soon had a young queen laying in the hive. It is prosperous now, and I have seen nothing dead in it since. Now it may have become chilled during some night, causing the bees to crowd closer together, leaving the brood on the outside comb exposed. I can at least see no other explanation of the matter. Bees have had a good season here as in other places. HENRY ROFKAR.

Catawba Island, O., Sept. 11, '76.

We do not see any reason to consider that there was foul brood in your case; it is not an uncommon thing to find brood chilled under such circumstances, yet we very much doubt whether foul brood results therefrom. It is a fungoid growth, and unless the seeds of the disease are by some means brought into the hive, it is difficult to imagine how it should get there.

# Our Homes.

[In this department I beg to be allowed to lay aside the editorial "we," have a friendly chat and feel "at home."]

## CHAPTER XXX.

### WHAT SHALL WE DO WITH OUR MONEY?

I WONDER what kind of answers I would hear if this question should be addressed to each of my readers individually. I can imagine one saying, "A very easy question, for it is decided long before the money is earned". Another, "It is how to get it, that troubles *us*, not what to do with it;" still another, "Keep it." And there would be a few who would say, "We don't have any; or at least not enough to cause us any uneasiness, so the question is very easily decided." Perhaps the point I wish to get at would be better stated by saying "What shall we *not* do with our money?" Well in a general way I would advise that we should not make purchases that we will afterward be sorry for.

Perhaps the greater part of the purchases that are made to be afterward regretted, are those made at the urgent solitation of others, and I have many times wished one could be at all times allowed to do just as he pleased peaceably, as I believe he is, in most first class establishments; in fact it is for the greater part, only among the traveling or transient class of dealers, that things are forced on, as it were, those who are too good natured to assert their rights. I like to be pleasant, and to treat courteously all who honor me by making me a call; but really, my experience of late has been such, that I have almost felt it a duty to treat every new face with coldness until I knew to whom I was talking. Only a short time ago, a very bland and pleasant individual inquired for me, and the way in which he smiled as he put out his hand, induced me to think he must be one of my subscribers, who had perhaps been following me through these very Home papers. When I finally signified that I should be pleased to know his name and wishes, he commenced reciting a tale of the very high esteem in which he had learned I was held by all my acquaintances, and mankind in general, and before I could well interrupt his flow of eloquence, he went on to say the distinguished Company which he had the honor to represent, had decided to—

"My dear sir you are making a great mistake."

"*I* making a mistake? In what am I mistaken?"

"In thinking that I could by any possibility desire to have any thing to do with you, or the class of individuals to which you seem to belong."

"Do you mean to say you have all the business you desire?"

"All, of the nature you represent."

"Not even if 3 out of every $5.00 were to be clear profit, and if you could make a dozen such sales every day by taking only a small part of your time?"

I shook my head, which seemed the hardest answer to his question I could possibly have given him, for he really seemed for an instant at fault as to the proper move to be made next; but speedily recovering, he made a profound bow, wishing me good day, with the air of one who was determined to be a polished gentleman, no matter how undignified others might choose to be. "There!" said I mentally, "You saved your money that time old fellow didn't you," and I began to feel once more that I was good for anything in the way of agents that could come along, after the wide experience *I* had had, but listen: A well dressed, quiet business man came in a few days after and asked if I could spare a very few minutes. Of course, I put on my armor, and expressed readiness to hear what was to be said.

"We would like the privilege of collecting your bad debts," said this "good Samaritan," "and if you will give us a few of the very worst you have, we will try to show you that almost any debt may be collected, and our pay in the shape of a small per cent, is taken out of the amount if collected, otherwise you have nothing to pay."

Have you ever felt dear reader how hard it was to have your hard earnings go for nothing, and to feel that if you only had all that was justly due you, you would almost feel independent? Have you never felt that if there were only some way devised whereby people could be *made* to do as they had long ago so faithfully promised, what a blessing it would be? As this very good man unfolded the plan whereby the tricky ones were to be held up to the scorn of all good people, in a way that would protect the honest ones, and then allayed all scruples, by showing that the whole business was to be transacted by one of our own influential citizens, I really felt like thanking him for bringing such a progressive idea into our out of the way town. A few days after he wanted just $10,00 for enrolling us as a life member of this very praiseworthy institution, a small matter that had not occurred to him on his first visit. After paying him the money it occurred to me that I had better ask judge L. about having his name on the papers of this great moral institution. He replied that he had only agreed to collect accounts for such a per cent, which was a little more than his regular rates, and he knew nothing further in regard to it. Their regular journal was to be issued monthly, containing the names of all persons who utterly refused to pay their honest debts, but it was nearly a year before the first number came, and then it was a miserable little poorly printed pamphlet, containing a few dozen names, purporting to be the entire list of "dead beats," of Ohio and two other large States, and that was the last of the $10.

A few days ago a couple of gentlemen (?) tried the same thing over again, but before they got started their eloquence received such an extinguisher, that they dodged almost as if a club had been raised at them as they deserved. Next day they came back with a reinforcement and begged to be allowed to talk bees; finding this would not work, they induced one of our townsmen to approach me on the subject quietly. Now our home is getting besieged in the same way. A tall, slick, smooth fellow with eyes that he doubtless prides himself on, came Saturday morning and talked so long to Mrs. R. in spite of all she could do, that she could hardly get round to the afternoon prayer meeting. When told she did not want his book, he assured her she was mistaken. In answer to her statement that we made our purchases through the regular channels of trade, and never dealt with peddlers and agents, he declared he would sell *me* his book, and actually *did* sell $12.00 worth of his books to the hands in my employ, in my absence.

Is it not well to invest money in books? Most certainly it is if they are needed and used after they are purchased; but to be coaxed into buying a book that you had not felt you needed, would be "Toodles door plate." In our own home there are books that voluble agents have persuaded us no family should be without, lying unread year after year, until I have finally been driven to telling agents flatly that I would not look at their books and wares, nor listen to their strings of falsehoods. Pictorial bibles have been peddled through our county by men who have as much of an idea of the real purpose and intent of the Bible, as a pet dog would have of a work on Astronomy. All meritorious books, and all meritorious wares of any kind, are quickly found upon the counters of established dealers, and there they can usually be had for a fair price.

Our business men in almost every department, are keenly alive to all *real* improvements, but as they sell to friends, neighbors, and all who have learned to rely upon them, and as their good name is of more value to them than money in the bank, they could not be induced to give their patrons the wares, or charge the prices that agents do. Honest and faithful men cannot afford to travel about, for there is always plenty for them to do where they are known; and such a one would find it more profitable to stay where he was well known, than to go continually among strangers. Again, if every one were to tell tramps of all kinds, kindly but firmly, that they would have nothing to do with them, the business would soon die out of itself. The men that beg or peddle from house to house, would soon take up some other pursuit if it did not pay; and those who consent to bear the rebuffs that of late are so frequently met, only do it because they know what opportunities are to be found for sharp bargains if they can once force an entrance into our homes.

We at one time supplied peddlers with cheap spectacles at cost to them, by the dozen, of 12½c. each. These fellows gave them high sounding names, claimed for them the most miraculous virtues, and sold them for several dollars per pair. One of the peddlers sold 3 pairs for $7.00 to one of our prominent citizens within a half hour after leaving our store; and so smoothly did they tell their falsehoods, that we for a while almost despaired of being able to get people to see what they were doing.

If we bought nothing we did not need, and paid only fair prices for what we did buy, we could with moderate diligence keep out of debt and have a little ready cash ahead for those fine chances that occur in the life of every one, to make good and safe investments. If you think you do not pay out your money foolishly, just take an invoice of your effects some rainy day, and see how much you have bought that you have never needed; or look over your cash account at the end of the year, and see what proportion of your expenses have been judicious ones. But suppose the peddler or agent you treat so uncharitably were your own brother or father, says some one. In that case I should thank the public, who would tell them by actions and words that they must settle down and have some local habitation, if they would be treated as friends and fellow citizens.

Is it not much pleasanter for all parties, to have those who are in need, go where the goods wanted are kept for sale, instead of being continually solicited to buy something of which they are in no need? It certainly cannot be pleasant for one who travels about with the goods to feel that he is, many times, forcing his presence and business on those who not only have no interest in the matter, but are often so full of cares of their own, that they have no time to waste on outside trifles. I can speak from personal experience, for I too have traveled about from house to house, looking perhaps pitifully, as well as wishfully into the faces of those who were many times inopportunely summoned to notice my humble wares, but I did it but a few days. In that short time I made huge resolves of having a place of business where I was known, and of having people come to *me*, when my humble services were in request, rather than that I should longer go in quest of those who did not want to see me. Think of summoning some ambitious housewife deeply intent on the duties of house cleaning, and after she has washed her hands, perhaps smoothed her hair, and maybe made some slight change in her working apparel, to find when she comes, nothing but an impertinent peddler, for of late they are getting to be exceedingly illmannered, when they have reason to think there are no men folks about. Some ladies were a few days ago discussing the propriety of locking the doors, when such personages appeared, but this course would lead us to run the risk of ill treating those most deserving, just as I may welcome you dear reader, with distant coolness, when you pay me a visit, before I can feel sure you are not an insurance agent, or something akin.

Since writing the above, I have several times thought it was perhaps too much fault finding, and that perhaps I was making a one sided plea; that some might say it hardly agreed with my repeated advice to my readers to start out with their honey and hunt up customers. I certainly would not do this, for I do not know that I ever felt annoyed at seeing a farmer or market gardener come about with his produce. I believe such people are generally pleasantly welcomed, and that if we do not wish to purchase, we are always pleased to look at the fine fruits of their own industry. It is the utter strangers, those who are false in their whole get up, and who never expect to see us again, who only care for the money they may get, and have little or no scruple as to the means they employ in getting it, that I have sought to portray. There are among the peddlers and agents, without doubt, those who are true and honorable. But when we look back, at the money we have expended in that way, can we not feel that almost all of it was really wasted? The washing machine, that was going to so revolutionize things, where is it and how long was it used? And so with the multitude of new things. But is it so with the wares you find in your hardware stores and groceries? They are slow to take up new things, but when they once do take them in hand, are they not generally things that will not "fade away?"

I would by no means discourage any kind of honest industry, and those who are doing as they would be done by, who are telling the whole truth about their wares, who are giving a full equivalent for the money they receive, who are to be found when dissatisfaction arises, who are supplying the wants of their fellows in a way that will make the trials of this life easier to bear, I would by all means, bid God speed."

## PROPOLIS, OPEN TOP FRAMES, ETC.

I HAVE just been out examining a stand of bees. I got an old corn popper, (trying your plan you see) and put some fine chips and fire in it, and proceeded to business. The popper made a famous smoke, but in spite of all that, the bees would come up and get in the way; then my fingers got all stuck up with propolis, etc., so I could hardly let go of any thing. My patience was a little tried as I had to give up the job before I got done. I found no eggs but some capped brood and a few larvæ. It is pretty hard for me to tell whether a stand is queenless or not this time of the year.

Open top bars that have quilts or carpets on them are a heap of trouble for me to handle, as my fingers get all stuck up so I don't know what to do with them. I have been using the American hive since '71, and as I heard so much about the L. hive I thought to try them. Open top frames are handy in some respects and bother some in others; (that is, to me) are they not more easily handled when there is a honey board on the hive? Would a honey board do $\frac{3}{8}$ of an inch thick?

I wintered part of my bees last winter with a case round them 3 or 4 inches larger than the hive, filled in with hay, did not have them covered very well; had five fixed that way and part of them had mouldy combs in the spring. Well, I sometimes get the blues and almost wish I never had begun the bee business. I have made it a large part of my study since '71, have been at some expense and have made a heap of talk on the subject, tho' I have not really made any money at it. I enjoy working with bees in the honey season, and sometimes I get all delighted with the business. Should hate to do without GLEANINGS for it gives me fresh courage lots of times.

J. S. WILLARD, Hopkins, Mo., Oct. 12th, 1876.

Can you not manage to handle your bees only during the honey months? We have the same troubles with propolis here, but it is mostly late in the fall, and we feel pretty sure that if managed properly, hives need not be opened at all, after honey has ceased coming. Thin honey boards will do very well, but after trying one or two, we think you will prefer the quilts. Spread a single sheet of duck over the frames, close down tight every time you have the hive open, and you will keep the propolis entirely off the quilts. It is not possible for us to be delighted all the time in any pursuit, and you are probably not alone in feeling despondent at times. We are very glad indeed, to hear that GLEANINGS, has cheered you amid your duties "Be not weary in well doing, and you will assuredly reap in due time, if you faint not."

## OUR OWN APIARY.

Oct. 15*th*—We would like to report all our bees in wintering trim, but they are not. If we could fix them all as easily as we did the house apiary, it would be a light task indeed. By the way, we have found that a frosty morning, is an excellent time to remove a set of section boxes and put on the chaff cushions. Approach the hive quietly, and get your screw driver under the case of sections, or the upper story containing them, and with a quick movement you can snap all attachments, and get the boxes off before a bee has waked up; but now comes the time for action. Have your sheet of duck in readiness, and before a bee can get to the side of the hive, have the cloth tucked closely down all round; put on your cushion, then the cover, and you are all right. If it is an upper story, you can put it back, or another, before you put in the cushion, but be sure you get it all fixed before the bees have time to boil out. They will very likely gather out at the entrance, but don't insult their dignity by walking before them, and all will be well. If you are clumsy, and do not get things fixed expeditiously, you may find hybrids rather worse in frosty weather than at any other time. In fixing our old Standard or long hive, we took too much time, and all hands waked up to such an extent that they took entire possesion of the corn popper smoker, and came at us like a very young hail storm. Many of the yellow stocks, will hardly stir, when we raise off a whole set of section boxes. By the way, in fixing them for winter, we found out why the hybrids were ahead. They had a full case of sections, but so little in the frames below, that some had to have combs given them; while the Italians that had been very backward about going into the sections toward the last of the season, had filled every cranny below to such an extent that they were almost a solid block of honey; in fact they had built the ends of the frames and the hive, into a solid mass of honey. While we admired their prudence, we could but think their pecularity a little bit objectionable.

We have had quite a pleasant visit from friend Stanhope of Pentwater, Mich. Mr. S. now has 204 colonies; has sold a fine crop of honey at good prices, and gives us the cheering inteligence that extracted honey is speedily growing in favor, where a really fine article of ripened honey is put in the market. At Milwaukee, he says he had many applications for more at 15c. after he had sold all out. This demand came from honey dealers, but it may be well to add that his honey had a good reputation in the market. Mr. S. says he should not feel like giving up at all, if he had to sell honey at 15c., and colonies for $5.00, but feels sure he could do a very good business at the prices. He gave us an idea on side storing boxes, that was new, at least to us. He says they are an advantage, only during extreme warm weather, and that the bees of a heavy colony will crowd into the side boxes because they are cooler; if such is the case, side boxes are especially desirable for hives standing in the sun, and for our warmer climates. As it is very inconvenient to handle side boxes unless we can take the sides of the hive entirely away, it will be quite desirable to keep the hives cool at such extremely warm periods. Can this be done by chaff or sawdust packing that the heat of the sun may not penetrate?

# Notes and Queries.

PLEASE tell how you put up or fix your bees to be sent off on the cars. A. J. Cook.

Lansing, Mich. Oct. 10th, 1876.

[Be sure the colony has old, strong combs, not too heavy with honey; the great bulk of stores should be near the top bars. If the combs are all right without breaking the fastenings made by the bees, all the better, and you have then only to make the frames secure as they are. We prefer pushing sticks, sawed to the right length and thickness, between the end bars of the frames; this makes all solid and secure, and yet the sticks can be pulled out without removing the combs. Lay another piece across the frames at each end, and fasten it with screws, and the hive will be safe, even if it should be thrown upside down. If the hive has a portico, cover it with wire cloth and let the bees get out in it if they wish; if it has none, cover the frames with wire cloth, and fasten the cover a little open. If the weather is warm, and the colony very strong, it will be safer to allow them to leave their combs and cluster in an upper story, but ordinary colonies in cool weather, may be simply confined with wire cloth. The surface of wire cloth must be large enough so they cannot pack densely over it, or they will be ruined. We have many times seen them when released, crawl out of their hives in every direction in the dirt, completely demoralized; this from insufficient ventilation.]

Whose paint do you use for hives? If 16 pounds of honey be assumed as enough to winter on, how many pounds of coffee A. sugar will it take? I suppose the same number; but perhaps a less number of pounds of sugar made into syrup will do. What is coffee A. sugar worth per barrel where you are? Where do you buy? E. D. SANFORD, Decherd Tenn., Oct. 10 '76.

[We use the paint advertised on page 262.

Ten pounds of sugar will go as far as 14 pounds of honey on an average; but 10 pounds of honey properly ripened and sealed up in the combs, are worth nearly as much as 14 pounds of liquid honey, to feed. Circumstances may vary this, but it will be found to average about right. With honey at 10 or 12 cents, it will hardly pay to extract it to feed, but when feeding is to be done, and we have no sealed combs laid away for the purpose, we would use the sugar by all means. Given in the form of candy, it is safer and more economical, and we think 8 pounds of candy would go as far as 10 pounds of sugar made into syrup. There is no waste with the candy, and it neither starts brood rearing or comb building out of season. Coffee A sugar is worth 11 cents by the barrel, at W. P. Southworth's, 116 Ontario St., Cleveland, O.

### FOUNDATION NOTES.

We are quite anxious to hear reports from those who had the first we sent out last spring—made on the Perrine machine, 5 cells to the inch. If this has all worked satisfactory, we shall proceed to make another machine exclusively for brood combs—for the greater number of young bees in a given space will be quite an item. We sent to Mr. Perrine for a sample of his very light fdn., and behold it had no side walls, but was simply an indented sheet of wax. If such will answer as well, we can make them as thin as this paper, with great ease. We also remitted for a sample to the parties who have been advertising in the *Magazine*, and were told that they had quit making it for the season, and *had not even a sample on hand*. If any has been made in N. Y. this past season we should like to see a sample of it; we have sent considerable of our own to the *Magazine* folks.

Of the complaints mentioned last month, Mr. Perry generously returns the money we sent him, saying he could not feel it right to take anything for damages, if we took back the fdn. It is now in our possession and we shall try and find out where the trouble was. He writes: "Mr. Sausman likes the yellow fdn. he got of you, and thinks he will want 50 or 75 pounds in the spring—and I am in hopes to need as much." Mr. Becktell says, after putting in the sticks as mentioned last month: "I get the fdns, built as straight as a board, and I think the bees build them two or three times as fast as natural ones." He has written us since that they bulged even when built between full combs without sticks. As this is so contrary to our experience, we have desired him to return us some of it. Mr. Burch in a letter of date Oct. 7th, says he found 3 sheets in his package that gave 8 square feet to the ℔. He writes, "these were given to a new colony, building comb at the time, and were not only *promptly accepted*, and lengthened out, but were also occupied by the queen." These light sheets were of course some that were dipped so thin as to have no side walls. In our apiary, the bees have worked such much slower, and as they were complained of, we directed the girls to use none but those thick enough to fill the rolls. We have sold over a ton of the yellow, and perhaps a half ton of the white, and have, as yet, had no other complaint of either the bees or queen refusing to use the thick sheets. We suggested to Mr. B. that his trouble might have been in the wax that he furnished, or in his manipulation, but he insists the trouble was all in the thickness. By the way, would it not be a grand thing for the extractor, to have some drone comb that the queen would *not* use?

## TABLE OF PREMIUMS.

| *Names of Premium Articles.*<br>*Any of them sent post-paid on rec'pt of price.* | *Prices of Premiums* | *Number of Subscribers required at* 75c. | *or at* 1.00 |
|---|---|---|---|
| 1—*Lithograph of Apiary, Implements, etc.* | 25 | 5 | 2 |
| 2—*Photograph of House Apiary* | 25 | 5 | 2 |
| 3—"*That Present," Novice and Blue Eyes* | 25 | 5 | 2 |
| 5—*Emerson's Binder for* GLEANINGS, *will hold 4 Volumes* | .50 | 6 | 3 |
| 6— " " *better quality* | .60 | 7 | 3 |
| 7—*Pocket Magnifying Glass* | .60 | 7 | 3 |
| 8—*First or second Volume of* GLEANINGS | .75 | 8 | 4 |
| 9—*Best quality Emerson's Binder for* GLEANINGS | .75 | 8 | 4 |
| 10—*Double Lens Magnifier, on 3 brass feet* | 1,00 | 9 | 4 |
| 11—*Photo Medley, Bee-Keepers of America* | 1,00 | 9 | 4 |
| 12—*First and second Vol. of* GLEANINGS | 1,50 | 10 | 6 |
| 13—*Centennial Cabinet Clock; a pretty and accurate time piece, that will run even when carried about, for only* | $2 00 | 15 | 7 |
| 14—*A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box* | 3,15 | 20 | |

Comb Foundations!

PURE BEES WAX.

Cut to any size desired.

PACKED IN NEAT WOODEN BOXES—PAPER BETWEEN EVERY TWO SHEETS. AT $1.00 PER POUND FOR THE WHITE, OR 75 CENTS PER POUND FOR THE YELLOW.

IF WANTED BY MAIL, ADD 25 CENTS PER POUND FOR PACKING BOXES AND POSTAGE.

If taken in our regular packing boxes, sheets 12x18 inches, 10 per cent. off from above prices on 10 pounds or over.

Wax will be worked up to order, and cut into sheets of any size desired, for 40 cents per pound.

We will pay 28 cents per pound cash for bright yellow wax, or sell it for 31.

One pound of wax makes from 4 to 8 square feet of surface. The thinnest will be used by the bees, but is not made into comb as quickly as the heavier, which has a greater depth of cell.

Sheets just right for L. frames, both white and yellow, kept constantly in stock ready for shipment; also square sheets for section boxes. About 6 of the former or 30 of the latter (enough for 1 Universal case) weigh 1 pound.

At above prices we can pay no freight or express charges either way.

The only wholesale rates we can give is 10 per cent. off from above rates on orders for 50 pounds or over, or 20 per cent. on 100 pounds or over. A. I. ROOT.

Medina, Ohio.

BALANCE of the year free, to new subscribers.

MR. HARBISON has 3,000 colonies, and has sent to N. Y. 200 tons of honey.

MR. MERRIAM writes that he will contract to furnish next season 50,000 pounds of extracted honey for 6 cents; or for 8½ if delivered in Chicago.

AT last! A section box that will hold fdn. without the melted wax. It holds them so secure we think they can be shipped thus without injury, and the whole can be put together with the fingers as quickly as our old style. Prices as before.

MR. BLAKESLEE's large crop of comb honey, which has been all sold at average of 22c., was all or nearly all built on the *paraffine* fdn. If used in strips about an inch wide, it can be used to very good advantage, as numbers of our friends have reported.

It is with pleasure and pride we tell our customers that our comb honey is built on the new artificial comb fdn., and if we thought any one might be deceived, we should assuredly label every section. Would it be wrong to sell glucose if every bottle were honestly labeled? How is it friend Moore?

THE walls of our house apiary, although but 4 inches, are certainly *as good* a protection as 4 or 6 inches of chaff. The building paper and 4 air spaces answer excellently, but we think chaff or sawdust walls would be cheaper. when the house apiary was kept dark and close, and the section boxes covered with heavy dark woolen cloth, the boxes next the wall were filled soonest.

OUR friends will have to excuse us from publishing the reports of associations that have only a local value. GLEANINGS is read not only all over the United States, but in Canada, England, Australia, Prussia, Austria, and —and—Germany. (We send one copy to each of the last three anyway, and we we were afraid if *we* didn't tell of it, no one else would.) Now we wish to give something on these pages that will interest *all* of our readers, as well as something they have not seen elsewhere, before, and for the latter reason we cannot print reports that are pretty sure to appear in the other journals. A list of the names of officers is frequently sent to us with the request to print it, but these are of no interest or value to the great mass of our readers.

About a year ago. we had a pleasant visit from J. S. Hill, of Mount Healthy, O., who keeps his bees permanently packed the year round in such, or similar hives as the chaff one we have described. He got no honey in 1875, not a lb., and if we remember right, had to buy sugar largely to keep his bees from starving. Was he discouraged? Not at all; took it very cheerfully, fixed up the bees well, and said he guessed they would pay for the sugar sometime. Now listen to this, ye faint hearted:

"Hill's honey crop this year was over 10.000 lbs., commencing in the spring with, I believe, 84 stands. He raised also 6,000 pounds of machine extracted honey, as nice as anybody has, and you know we feel a little proud of the quality of the honey raised in this part of the country. I bought all of his honey, and I am sure I have never before seen as nice a lot of comb honey as Hill's: There was about 3,800 lbs., in combs weighing from 1½ to 1¾ each. Every comb in the lot was perfect and separate from the rest; it is a model lot of comb honey, and it would do you good to look at it. C. F. Muth, Cin., Oct 23."

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

**Wanted!**—Three copies of Vol. III of Gleanings in Bee Culture at this office. Write us, stating price.

## IMPORTED BEES FROM ITALY.

Having succeeded better than ever in our importations, we will be enabled to sell our

## COLONIES and QUEENS

Next spring, at greatly reduced prices.
1tf CH. DADANT & SON, Hamilton, Ill.

MUTH'S ADVERTISEMENT.

## HONEY JARS!

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| One pound (square) jars, per gross | $6 00 |
| Two " " " " | 8 00 |
| One " " " flint glass per gross | 8 50 |
| Two " " " " " " " | 10 50 |
| Corks for 1 and 2 pound jars | 75 |
| Tin foil caps, per gross | 1 20 |
| Labels " " | 75 |
| A thousand labels address printed to order | 5 00 |
| One qt. fruit jars, Mason's patent, per gross | 17 00 |
| Labels for same, " " | 65 |
| A thousand labels address printed to order | 4 00 |
| Uncapping knives, as good as any, each | 50 |
| " " per dozen | 4 50 |
| Alsike clover seed, per bushel | 13 50 |
| " " " " peck | 3 50 |
| " " " " pound | 40 |
| Catnip seed, per pound | 6 50 |
| " " " ounce | 50 |

**Langstreth Bee Hives,**

Straw mats, bee vails etc., at reasonable rates.
For further particulars, address
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Names of responsible parties will be inserted in either of the following departments, at a uniform price of 10c. each insertion, or $1.00 per year.

## $1.00 Queens.

*Names inserted in this department the first time without charge. After, 10c. each insertion, or $1.00 per year.*

Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use and imported queen moth-

If wanted by mail, send 10c. extra.

| | |
|---|---|
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| *J. Oatman & Co., Dundee, Ill. | 3tf |
| *E. W. Hale, Wirt, C. H., West Va. | 6-6 |
| *J. M. C. Taylor, Lewiston, Fred. Co., Md. | 1tf |
| Miss A. Davis, Holt, Ingham Co., Mich. | 5-12 |
| *Aaron I. Weidner, Bigler, Adams Co., Pa. | 6-12 |
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| *Staples, Andrews & Vaughan, Columbia, Tenn. | 7-11 |
| *W. P. Irish. New Portage, O. | 7-12 |

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We, whose names appear below, agree to furnish bees as follows: A two frame nucleus, full of brood and bees, with tested queen, for $6.00, or the same with $1.00 queen for $4.00. Where five are ordered at one time, $1.00 less on each nucleus; * names use only imported mothers.

| | |
|---|---|
| *J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
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| *Wm. J. Andrews, Columbia, Tenn. | 8tf |

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| | |
|---|---|
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| J. S. Woodburn, Dickinson, Cumb. Co., Pa. | 6-11 |
| M. S. West, Pontiac, Mich. | 6-5 |

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Imported and home bred queens; full colonies and nucleus colonies: bee keeper's supplies of all kinds, Queens bred early in the season. Send for catalogue.
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Augusta, Ga.

**THE BEE-KEEPERS' MAGAZINE,** an illustrated monthly journal of 32 octavo pages, devoted exclusively to bee-culture; edited by ALBERT J. KING, containing contributions from Mrs. Ellen S. Tupper, and experienced bee-keepers in America and Europe. A large space is devoted to beginners, giving useful information just when it is most needed throughout the year. Terms, $1 50 per year. The Bee-Keepers' Text-Book in *German or English*, and the Bee-Keepers' Magazine one year $1.70. A 64 page pamphlet (price 50c) containing a beautiful life-like **Chromo** of **Honey-Plants** and **Italian Bees** in their natural colors, with prize of Mrs. Tupper, Queen rearing by M. Quinby, instruction for beginners, etc., sent *free* with the Magazine, on trial, 4 months for 50 cents. Agents wanted—cash commission and permanent employment. Address

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| | |
|---|---|
| 1 tested queen | $3 00 |
| 6 " " | 15 00 |
| 1 untested queen | 1 00 |
| 6 " " | 5 00 |
| Full colonies in Langstroth hives | 12 50 |

☞ Safe arrival of *all queens* guaranteed. ☜

Purchasers must assume all risk in the transportation of full colonies.

As prompt attention as possible will be given to all orders, and *satisfaction guaranteed*.

7tf-v RUFUS MORGAN, Old Fort, N. C.

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Barnes' patent FOOT POWER Machinery, Circular Saws, Scroll Saws, Hand circulars, Rip Saws for general ripping, Lathes, etc. These machines are especially adapted to HIVE MAKING. It will pay every bee keeper to send for our 48 page illustrated catalogue.

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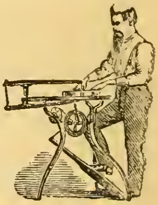
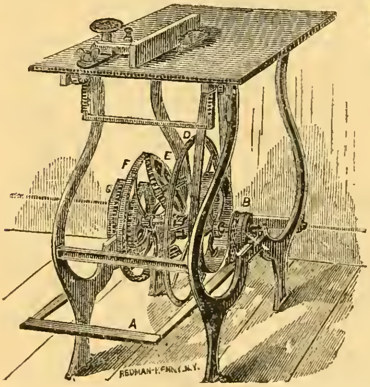
Rockford, Winnebago Co., Ill.





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*Please mention when names are intended for clubs. An acknowledgment will be sent in all cases on receipt of money—for any purpose whatever—by return mail. Volumes I and II, at* 75c. *each, may be counted on the same terms, as we have a*

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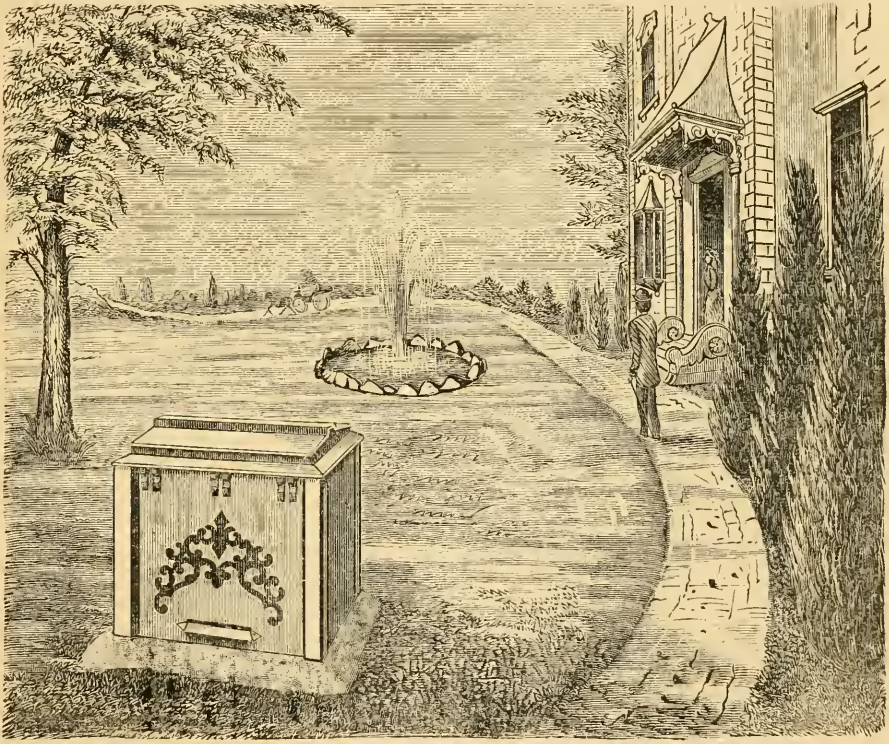
*As we cannot take the space in future numbers to go over the same ground again, and Volume I contains the entire Fundamental Principles and*

## Ground Work for Starting an Apiary.

# GLEANINGS IN BEE CULTURE



## The Lawn Bee Hive.

It was a mistake dear friends, we protest it was, for we had not the remotest idea of making a handsome hive. On the contrary we were hard at work trying to make something cheap; something that would not have to be overhauled every spring and fall, nor require an ungainly box with its attendant litter of straw, chaff or sawdust; and furthermore, that would not have to be lugged in-doors and out to suit the requirements of uncertain winters. As the hive grew day by day, all out of cheap materials, and as we looked gloomy as insurmountable difficulties seemed to appear, and then smiled as they gradually yielded, we never thought of its being pretty, no, not even when we found we could lift the brood combs out without removing the upper story, and hang the same frames above, without having anything loose about either. When we succeeded in making a tight cover out of the very same cheap unplaned siding, *then*, we saw a possibility of a permanently located hive, that might be ornamental, as well. Some cheap molding sawed up into inch pieces, made the brackets under the eaves, and the scissors and some brown paper soon furnished the pattern for the scroll work over the entrance. This is sawed from ½ inch pine, and fastened to the hive with screws. So you see the "Lawn hive" is nothing more than the chaff hive, with the brackets and scroll work; and our boys will with pleasure furnish them painted and all complete like the cut, for $6.00, or for $5,00 without the ornamental work. Without chaff packing (can be put in any time), 50c. less.

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## IMPLEMENTS FOR BEE CULTURE ALPHABETICALLY ARRANGED.

For descriptions of the various articles, see our ninth edition circular found in Feb. No., or mailed on application.

This price list to be taken in place of those of former date.

Mailable articles are designated in the left hand column of figures; the figures giving the amount of *postage required*.

| | | |
|---|---|---|
| | Bees, full colony amply provided for winter, in our new two story, chaff hive (described Nov. and Dec. No's .. '76), tested queen from imported mother, safe arrival guaranteed | $15 00 |
| | The same in old style L. hive with portico, etc. | 12 00 |
| | The same with hybrid queen | 10,00 |
| | The same not provisioned for winter | 7,00 |

We think we can prepare bees for shipping safely any month in the year; when we fail in so doing, we will give due notice.

| | | |
|---|---|---|
| 0 | Binder, Emerson's, for GLEANINGS | 50, 60, 75 |
| 4 | Boxes, section with comb guides | 02 |
| | Balances, spring, for suspended hive (60 lbs) | 8,00 |
| 10 | Blocks, iron, for frame making | 15 |
| | Barrels for honey, $2 50; waxed and painted | $1,00 |

Buzz-saw, foot-power, *complete*; circular with cuts free on application. Two saws and two gauges included. $35 00

| | | |
|---|---|---|
| 0 | Buzz-saws, extra, 6 in. 1,50; 7 in., 1.75; 8 inch.. | 2 00 |
| | Buzz saw mandrel and boxes complete for 6 inch saws $5.00; The same for 7 and 8 inch saws... | 8 00 |
| | Comb Foundation Machines complete. | 125 00 |
| 0 | Candy for bees, can be fed at any season, per lb. | 17 |
| 20 | Corners, metal, per hundred | 1 00 |
| 25 | " " top only | 1 25 |
| 20 | " " bottom, per hundred | 75 |

On 1,000 or more a discount of 10 per cent. will be made, and on 10,000 25 per cent. The latter will be given to those who advertise metal cornered frames.

Chaff cushions for wintering, and for covering honey boxes in summer These are made 16x20x6, but can easily be pressed into a much smaller cap or upper story. The chaff used is clean, soft and free from dust.

| | | |
|---|---|---|
| 60 | Each | 30 |
| 9 | The same all ready for the chaff | 15 |

As we purchase our cloth at wholesale, this is perhaps as cheap as you can make them.

| | | |
|---|---|---|
| | Combs, empty worker in metal cornered L. frames. | 50 |
| 10 | Clasps for transferring, package of 100 | 25 |
| 0 | Cards, queen registering, per doz | 10 |
| 2 | Cages " | 10 |
| 2 | Cheese cloth, for strainers, per yard | 10 |
| 12 | Duck, for feeding and covering the frames—bees do not bite it—per yd. (29 inches wide) | 20 |
| | Extractors | $8 50 to 10 00 |
| | " inside and gearing | 5 00 |
| | " wax. | 3 50 |
| 4 | Frames with Metal Corners | 06 |
| 7 | Feeders, 1 q't, tin, can be used without opening the hive, in warm weather—neat and simple | 10 |
| 25 | The same, 2 q's, to be used in upper story... | 50 |
| 5 | " Sample Rabbet and Clasps | 10 |
| 10 | " Closed end Quinby, nailed | 05 |
| 0 | GLEANINGS, back Volumes, each | 75 |
| | " present " | 1 00 |
| 40 | Gearing for Extractor | 1 50 |
| 20 | Gates, Honey, for Extractors | 50 |

### THE SIMPLICITY HIVE

One story Langs'h without frames or bottom $1 00

The same with bottom, 10 frames, division board and quilt, crated so as to be sent safely by freight or express $2 25.

If you decide to use the extractor you want an extra body and 10 frames—$1.25—making complete two story hive—$3 50—or, you can have 60 section boxes (two tiers of 30 each) in place of the 10 frames, at the same price.

| | | |
|---|---|---|
| | CHAFF HIVE FOR OUT DOOR WINTERING, 10 frames below, and 14 frames or 80 section boxes above, well painted and finished complete | $5 00 |

These hives, if supplied with stores, will, we hope, need no attention whatever, from the time honey ceases until it comes again the next season.

| | | |
|---|---|---|
| | One story Quinby hive, 8 *nailed* frames, division board and quilt, complete except surplus receptacles | $2 00 |
| | The same with 16 frames | 3 00 |

Or you can have instead of the frames above, any of the arrangements for surplus, mentioned for the Langstroth hive.

25 | Honey, Clover per lb. 16c., Basswood, 15c. By the barrel 2c. less and waxed and painted barrel included.

Honey in section frames or fancy glass boxes, 25c. gross.

| | | |
|---|---|---|
| 0 | Knives, Honey | 1 00 |
| 0 | Labels, Honey per 1000 | 3 25 |
| 0 | Lithograph of Apiary | 25 |
| | Lamp, Nursery | 5 00 |
| 0 | Larvae, for queen rearing, from June to Sept. | 25 |
| 15 | Microscope, Compound | 3 00 |
| 0 | Prepared objects for above, such as bees' wing, sting, eye, foot, etc., each | 25 |
| 0 | Medley of Bee-Keepers' Photo's, (150 Photo's) | 1 00 |
| 0 | Magnifying Glass, Pocket | 60 |
| 0 | " " Double lens | 1 00 |
| | Muslin, Indian head, for quilts and cushions per yard | 10 |
| | Parafine, for waxing barrels, per pound | 20 |
| 0 | Photo. of House Apiary | 25 |
| 06 | Quilts. | 25 |
| 2 | Rabbets, Metal per foot | 02 |
| 3 | Sheets of duck to keep the bees from soiling or eating the cushions | 10 |
| 0 | Scissors, for clipping queen's wings | 40 |
| 15 | Seed, Alsike Clover, *raised near us*, per lb. | 35 |
| 20 | " Summer Rape. Sow in June and July. | 15 |
| 0 | " Chinese Mustard, per oz. | 25 |
| 10 | Quinby Smoker | 1 50 |
| 2 | Tacks, Galvanized | 10 |
| 3 | Thermometers | 40 |
| 1½ | Universal Section Boxes in the flat, each | 01 |
| 0 | Veils, Bee, with face of Brussels net, (silk) | 75 |
| 0 | The same, all of tarletan (almost as good) | 50 |
| 5 | Wire Cloth, for Extractors, per foot | 15 |
| | " " Queen Cages | 15 |

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| 2 | *Photograph of House Apiary* | 25 | 5 | 2 |
| 3 | *"That Present," Novice and Blue Eyes* | 25 | 5 | 2 |
| 5 | *Emerson's Binder for* GLEANINGS, *will hold 4 Volumes* | 50 | 6 | 3 |
| 6 | " " *better quality* | 60 | 7 | 3 |
| 7 | *Pocket Magnifying Glass* | 60 | 7 | 3 |
| 8 | *First or second Volume of* GLEANINGS | 75 | 8 | 4 |
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| 14 | *A real Compound Microscope, beautifully finished, and packed with Implements in a Mahogany Box* | 3,15 | 20 | 8 |

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|---|---|
| Doolittle's improved Gallup hive with 30 boxes and cases and wintering arrangement all complete | $6 25 |
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| The above are well painted, with tin roof. | |
| Sample set of cases with 21 boxes that will fit any frame hive at top 14x20 (outside measure) or larger | 2 00 |
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| Sample case with 2 boxes (by mail 16c extra) | 35 |
| Sample box ready to nail (by mail 3 cts. extra) | 03 |
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| Block to nail boxes on (by mail 35c extra) | 1 50 |
| Block to tin boxes on (by mail 25c extra) | 50 |

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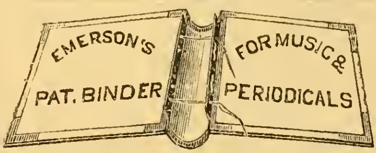

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| Bee Keeper's Text Book, muslin, | .75 |
| " " " " paper, | .40 |

The above are good, but are all far behind the times.

| | |
|---|---|
| A Manual of Bee-Keeping, by John Hunter | $1,25 |

This latter is fully up to the times, being as late as Sept., 1875, but being English, a considerable portion of it is hardly adapted to the condition of bee culture, at present, in our own country.

| | |
|---|---|
| Manual of the Apiary. By Prof. A. J. Cook | 30 |

This although small, is the only book we have in America that is entirely up to the times; the best for beginners.

# GLEANINGS IN BEE CULTURE.

DEVOTED TO BEES AND HONEY, AND HOME INTERESTS.

**A. I. ROOT,** *Publisher and Proprietor,* **Medina, O.** | **Published Monthly. Established in 1873.** | **TERMS: $1.00 Per Annum in Advance; 3** *Copies for* **$2.50; 5** *for* **$3.75; 10** *or more, 60c. each. Single Number* **10c.**

Vol. IV. DECEMBER 1, 1876. No. 12

## BEE-KEEPING IN TENNESSEE.

IT has been some time since I "bored" you with a communication, and I would not do so now, but for the fact that *I*, like most other bee-keepers, like to tell what I have been doing for the past season, and have an especial preference for making the communication to an appreciative and sympathizing auditor.

Know then, that I began the season with seven stands of bees; only two of them able to cover eight frames when fruit trees blossomed. I borrowed bees and combs from all the others, so that I had three at work on comb honey, in boxes and small surplus frames and one for extracted honey. I took honey from the four only, the other three being put to work at comb making. I did not care for increase of stock in numbers of colonies, my object this season being to get a little honey, and to go into winter quarters with none but strong stocks. I have two L. hives for box honey, both of which swarmed two or three times. I gave the old combs and unfinished boxes to the swarms, and did very well in honey, but it did not prevent their swarming again. I made several nuclei, but was very unfortunate about losing young queens in first flight. I had only two young queens fertilized safely and at work this fall, and one of them I lost in an effort to combine her colony with one of my old stocks, which had lost their queen in swarming, so I have my orginal number, seven, and all are in tolerably fair condition, save one, which is quite weak in numbers, but they all have plenty of stores.

The hive that I run for extracted honey, was a two story Simplicity, and they did not swarm. I am so much pleased with them, or that style of work that I shall run all for extracted next season, but one Langstroth.

I took about 250 lbs. of honey altogether; about equal quantities of comb and extracted. Some 65 lbs. extd. from two story Simplicity and as much more from the brood nests of the other three, besides a little from the three that were comb making. The above is far from being a large yield, but I am very well satisfied with it.

My opportunities for giving my bees attention at proper times are poor. I am engaged in book-keeping, and have to leave home quite early, do not return until dark and have no means of knowing what my bees are doing all day. They might be robbing or swarming, or what not, and I could be of no service to them. The children are all at school until the afternoon, and then have to get their lessons, and this condition of affairs caused me the loss of three good swarms that I know of this last season. My extracting has to be done at night too; and to do it, I must take out the combs and keep them out all day, so as to have them ready at night. This last spring I had not combs enough to put in for them to work on all day, while the filled ones were out, but next season I will be better prepared. Drone comb is splendid for the extractor.

I am surprised that some of your correspondents object to the metal corners. I want no other kind of frame, than yours with metal corners. They are light and strong, and I never have any fears about shaking bees off, no matter how heavy with honey the frame may be. And then they are so easy to get out of the hive. You need nothing to pry them loose, but even after they have been in the brood nest a whole season, you can just take hold of them with thumb and finger and lift them out.

When I first began bee-keeping I had peach trees in my garden, but they did not do well, (the soil is too heavy) and this spring I procured some grape vines, and arranged some trellisses, *a la* Novice, and am cutting out the peach trees. I swarmed several vines (see GLEANINGS, Vol. II, No. 10. Page 113,) very successfully, and that too with vines just set out. I transplanted one vine and made one swarm from it, and the swarm produced grapes first season, and the old stock or root grew two canes. From several vines, I made from four to five swarms each. It is a splendid idea for getting a vineyard quickly and economically. The posts of my trellisses are dressed cedar, (red cedar) 3x3 inches, about four feet out of the ground, with cross pieces of same timber, 1x3 in. by 3 feet with trellis wire from top to bottom as you direct. All are painted white The hives are on south side of each trellis set diagonally, entrance facing southeast. Each hive has sawdust around and in front. I have arranged for sixteen trellises, which is all my garden will accommodate. I have not used smoke for the last two years, in handling my bees, and feel now that when it is necessary, they had better be let alone except for special purposes. My bees are Italians.

My children have flowers all about the garden, and all go fearlessly in among the hives, and are rarely disturbed by the bees. One of my little girls about 13 years of age, when they swarm, gets a veil, catches the queen and cages her, puts her before a prepared hive, covers the old hive with a sheet, and when the bees come back liberates the queen, and never gets stung. I keep queens clipped.

I have not been troubled this season with moth. I sometimes find a dead worm in front of the hive, which the bees have killed and brought out, but do not see where they have been on the combs. When I had black bees, the moths were very troublesome, but with Italians, and especially strong stocks, or even stocks weak in numbers, but with only as much comb as they can cover, I have no fear of the moth. I use division boards all the time. Two of my hives I run on the long idea plan, and confine the queen in front with division board in brood nest, and keep surplus frames in rear. I like the long hive. Mine are but two feet long, and I have not given them a thorough trial yet but think I shall like them. I do not think the surplus frames can be troubled by queen laying in them, as the two story hives are. The queen in two story Simplicity vexed me considerably in that way; but I attribute some of it to my not extracting often enough. I see you are still improving your section boxes or frames. When you get them perfect, I shall want some of them.

With love to "Blue eyes" and wishes for the prosperity of all, I am respectfully. J. H. CRIDDLE.

Nashville, Tenn. Nov. 6th, 1876,

## THIRTEEN GOOD COLONIES, AND 450 POUNDS OF HONEY FROM ONE, IN ONE SEASON.

FULL PARTICULARS.

YOUR postal is at hand, and in reply I would say that the hive when it came here had lost a good many bees, as one corner of the wire cloth had got loose; but the queen and about a gallon of bees were all O K. On the fourteenth day of Feb. they commenced to gather pollen, and brood rearing went on nobly from that time. I fed them 88 pounds of coffee A. sugar in syrup, and divided them in May. In June and July I had seven swarms to come off—one going to the timber. In July it became necessary for me to move them to a new locality, as I had to leave the house I was in and take one some three hundred yards from where I was living, so I divided them all, making 10 colonies of them, placed them where they were to stay, and placed boxes on the old stands to catch the stragglers—putting them with the weakest ones early in the morning. I do not think I lost one pint of bees in the move, and how they did work.

About the first of August I got a card of eggs from friend McMains; it was 50 hours on the road, and raised 16 fine cells and 2 workers.

On July 7th ext. 25 lbs. honey.
“ “ 16 “ 65 “
“ “ 19 “ 55 “
“ “ 30 “ 65 “
Aug. 8th “ 70 “
Sept. 5th “ 30 “
“ “ 15 “ 140 “
450 For display at Fair.

I have 5 hives of 16 frames; the balance, 10 frames, are full of nice straight combs, and I think they have all of 400 lbs. of honey in the hives, sealed for winter.

I can count 125 stocks of bees in this valley, all in box hives, and they have not averaged 5 lbs. of honey to the hive. They say this has not been a good year for bees; I have not seen a pound of honey for sale, except the honey I sold, and some fancy jars from C. O. Perrine, of Chicago; they sell for 85 cents. I have sold all of mine at 20 cents per pound, and it went like hot cakes.

Friend Novice, I am a tinker, and not much on the write, but I can follow you in all your tin paraphernalia pertaining to apiculture. JAS. S. MARKLE.

Chanute, Kan., Oct. 23.

P. S, I send you the diploma taken at the Fair here for your extractor and my honey. J. S. M.

## HOME MADE IMPLEMENTS, ETC.

MANY thanks to you for your article on Italianizing, in June No. It was worth many dollars to me. I first tried one caged queen cell. In six hours after it was hatched I removed the old queen and liberated her on a frame of hatching bees. The next day I found her dead in front of the hive. I then made nuclei in one side of the hives and succeeded in getting 3 laying queens out of 9 hatched: the other six were caught by musquito hawks (dragon flies) in their first flight. These pests have been around my apiary in swarms for a month past, but I think they will disappear soon. Some days, as many as four or five hundred would be in sight at one time. They come in the greatest numbers when drones are flying, and between sunset and dark.

As you have done so much towards reducing the price of apiarian articles, and getting them within the reach of all, I will try to describe three home made ones that I am using. Take a lobster, salmon, or fruit can and solder a piece of perforated tin over the open end with melted resin and beeswax. Then cut a half inch hole through the perforated tin, and fill the hole with a piece of sponge, and you have a feeder that costs only a cent or two.

WAX EXTRACTOR.

Take a square 5 gallon coal oil can, cut it in two, so that it will make a pan about 4 inches deep to hold the water. Then from another can cut out the top and bottom, and set this in the top of the first to confine the steam. Make a shallow pan to catch the wax, by turning up the four sides of a square piece of tin. Solder a little tube into the last to run the wax out; then make a frame of wooden strips, with thin cotton tacked on the bottom and sides, to hold the comb.

Enclosed you will find a sketch of the scales I use in weighing hives. A pair of them can be found here on almost every plantation, and can be bought at the price of old iron. One side of the bar weighs 320 pounds, and the other 85. If the little knobs are worn round where the pendants rest on them, they should be filed to a sharp edge.

Why do bees reverse nature's law by making the current of air go in through ventilators above, and out through the entrance? I noticed this on very warm days, and the thermometer stood ten degrees higher at the entrance than at the ventilators eight inches above.

I saw an article in some bee journal saying that bees gathered a poisonous honey from the jameston weed, which I find is a mistake. It is now in bloom here, and furnishes some pollen, but the cup is so deep and narrow that they cannot reach the honey which is secreted in large quantities.

As bees have been gathering very little honey here in the past two weeks, I concluded to have them build some combs from molasses; but the experiment was a failure. They would not use it, although they take sugar house syrup very readily, which is our cane juice boiled down to the right consistency containing both molasses and sugar. J. D BEDELL.

Franklin, St. Mary's Parish, La., Aug, 14, '76.

We have never noticed the phenomena mentioned, because we have no ventilation except at entrance, perhaps. Our bees send a stream of air out at one side of entrance and in at the other. We rather think the case you mention was an exceptional one. Our readers will get a clearer idea of the wax extractor by examining the diagram on page 44, Vol. II of GLEANINGS.

## NOTES FROM OUR EXCHANGES.

### AMERICAN BEE JOURNAL.

JACK Frost has already tinted the maples and elms with red and yellow; even our gorgeous fall flowers, golden rod and the asters are fast fading. These sharp mornings with now and then a chilling breeze remind us of the colder times we may soon expect and for which provision must now be made. Among other things we must not forget our little pets—the bees. They have labored unceasingly whenever they could find anything to do, and have given us a generous supply of delicious nectar with which to grace the tea-table and tempt the palate, and in gratitude we should see that they are made as comfortable as possible during the dreary months of winter. Aside from this, it will not pay to neglect them, and it will pay to take good care of them.

The yield of honey from buckwheat this year has been quite good in most portions of the State, and as a little has been added from the late wild flowers the hives must be well supplied for the winter. In sections where fireweed is abundant, or certain species of golden rod are plenty the hives are filled very full almost every fall. The asters which grow in our State are not the kinds which furnish the large yields of honey so often spoken of, so comparatively little can be counted upon from that source. It would pay our apiarists to procure seed of the most common species of wild aster which grows in the middle Southern states. We suppose, then, that our hives are fairly supplied with honey this fall, yet, to be sure each hive should be examined, and any that may be deficient, supplied by feeding honey or white sugar syrup, or by giving them combs full of sealed honey. While there are many expensive styles of feeders, simply a shallow pan set in the cap or top story of the hive will answer every purpose. A quart or so of food may be poured in just at dusk, and shavings or cut straw scattered on the surface to keep the bees from drowning. In order to estimate correctly the quantity of honey in a hive it will be necessary to examine each comb separately or to weigh the whole together and then deduct the weight of the hives as well as something for the weight of the bees, combs and pollen. The easiest way I found is to ascertain by weighing the amount of honey which a comb of average thickness will contain, and from that estimate the amount in each hive. Of course an allowance must be made for the weight of the combs, especially if old, and the pollen they may contain. A little practice will enable one to judge quite accurately by simply lifting one comb after another from the hive, how much it contains. There ought to be not less than thirty pounds to each stock that is to be wintered on the summer stand; for in-door wintering twenty pounds will suffice. My experience has convinced me that, other things being equal, those stocks that have a superabundance of honey are much more apt to prove the paying stocks during the next year, than those that have to be fed any time after November or even than those that have just enough to carry them through until spring flowers appear. Forty or fifty pounds then would be preferable to thirty. In examining the combs it is well to cut one or two small holes near the centre of each to serve as winter passages for the bees; and, if possible, arrange the combs in such a manner as to leave some empty cells or such as contain brood near the center of the hive. The brood soon hatches, and in cold weather the bees crawl into these empty cells and being densely packed between the combs the whole mass is enabled to keep up the necessary heat of the hive. It is the natural disposition of the bees to store their honey in this shape, that is, over and around the brood nest; but during a good yield of honey late in the season they fill and seal all the combs to the bottom. When this occurs the bees, being separated by the cold sheets of honey are liable to perish before empty cells are obtained. The remedy is to use the extractor on the central combs, removing only a portion of the honey from each. We suppose then that one one of the conditions upon which successful wintering depends is present, namely; an abundance of honey.

The second point to be mentioned is that the hive should be well stocked with bees. Carefully lift the cover or turn the hive up some cool morning and if the cluster occupies five or six spaces call the stock fair. Yet "the more the merrier," and safer too.

Our third point is, every hive should have a good queen, one that has shown no signs of failing and is not past her third season.

Special repositories with thick walls like those of an ice-house are often constructed for wintering purposes. Dry cellars are also devoted to same purpose. These rooms should be dark, and, if possible, kept at a temperature of about 42 deg. F. The hives should be set in as soon as cool weather makes its appearance; and before the combs become frosty, the top of the hive may be removed and a blanket or straw mat laid on the frames.

If the stocks are populous, and have good queens and plenty of honey, and the hives can be properly packed I would rather have them remain on their summer stands. Make a box just the width and length of the hive and three inches deep and set the hive over it. This will give an air space below the combs and preclude the possibility of the freezing up of the entrance. If the hives are large, so much the better. Place the eight or ten combs containing the winter's food near the center, and hang on each side a division board, made by nailing together pieces of lath with an even layer of straw between them; place above a cap or top story several inches deep, lay a quilt or straw mat across the tops of the frames, and pack chaff or cut straw over and around them very closely. The cover should not shut very tightly but should admit no water. If snow-drifts cover the hives, they will be much better off.

To sum up, then, the conditions for successful out-door wintering seem to be the following: Strong stocks, plenty of honey, good queens, large hives well packed above and at the sides with dry absorbing material, an air space of two or three inches below the combs, and a chance for the moisture caused by the heat of the bees to pass off very gradually without permitting any draft of air through the hive.

I have had stocks prepared in this manner that reared brood all winter and were in splendid condition for the next season's work. There will be no trouble about "springing" such stocks. When thus prepared I have never lost any colonies in wintering, but I have lost them when they were placed in a cellar or buried in pits, or when they were neglected on their summer stands.

Knoxville, Tenn. FRANK BENTON.

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### BEE-KEEPERS' MAGAZINE.

Dr. J. P. H. Brown says:

You can make any sort, style, or shape of frame you wish and will not infringe on any right. The patent claims of the majority of the so-called patent hives, are for some small contrivance or feature not worth a sixpence to any practical bee-keeper.

The constant stream of inquiries in regard to patent hives, and the frequent accounts of having been the victims of fraud in this direction, especially in the South, has induced us many times to think seriously of keeping a caution permanently in our journal, in large plain letters.

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### BRITISH BEE JOURNAL.

Friend Abbott says:

In the winter the appearance of an apiary is not of much consequence, as few visitors care to spend their time in viewing what is so uninteresting during the quiet and almost lifeless period: and, therefore, although tidiness is highly to be commended, we use whatever comes to hand to cover up our bees, boxes, if possible, with packing of hay or shavings, and anything in the way of carpet or sacking that we can lay hands upon, and over the whole the best roof we can afford to keep all dry.

Now such has been almost universally the case, and it has made us many times feel dismal to realize that our apiaries must be such an uninviting scene of disorder, for almost six months in the year. Well, we assure you we have taken some rare pleasure in the past few days when it was pleasant, in fixing up in nice trim our new chaff hives; and the thought that they might be kept in just such trim all winter long, was refreshing. Now how pleasant it will be to see them fly during fine days in winter, such as we had so many of last winter, and to feel that they are all in just as nice trim, as they were during the summer months.

## THE AGRICULTURAL COLLEGE APIARY.

REPORT FOR THE YEAR 1876.

*From forthcoming report of State (Mich.) Board of Agriculture.*

Of the ten colonies of bees placed in the new cellar November 26th, all but one, the experimental colony, with none but old bees, came through the winter in fine condition. That one lived till spring, and then died. These colonies were all removed from the cellar once in January, and once in March, that they might have a purifying flight. They were not removed to the summer stands permanently till the middle of April.

During the previous autumn the bees were kept breeding even into October, and consumed nearly all the pollen. Several colonies had none. These had no brood when removed from the cellar. I attempted to supply this lack by feeding meal during the last of April, but found that nearly as soon as the weather would permit the bees to fly they could get pollen, and thus would not touch the meal.

I fed sparingly of syrup till the fruit trees were in bloom, and by that time had six or seven frames of brood in each hive. I also fed a little between the fruit trees' bloom and that of white clover, with the most satisfactory results.

During the season I have increased from nine to twenty colonies, all large and in excellent condition. I also procured two Italian queens imported from Italy, but lost one in introducing. The other has done well, and from her I have Italianized the whole apiary, though I am in doubt whether all the queens were purely mated.

I did not permit the colonies to swarm, but practiced artificial swarming or dividing. I lost three colonies, one coming out in the spring, and leaving at once, without waiting to alight even; the other two going off this fall, before I suspected any such thing, choosing Sunday of course as the time for their leave-taking. Had I previously cropped the queen's wings, all of these would have been saved. I have now no queens with uncropped wings.

I have extracted during the season 507 pounds from the brood chamber. About a third of this was from basswood, the other two-thirds from fall bloom, and none was extracted except from worker comb, which it was desired to keep free from honey that it might be used for brood.

During the season I have worked for comb honey, both in boxes and in small frames, and found that I could secure much more in the frames. I find, too, that the honey in small frames is liked quite as well by consumers.

In the spring I surrounded the apiary grounds with numerous honey-producing shrubs and trees, among which were bass-woods, locusts, crab-apple, shad-bush, etc. Most of these have done well,—a few have died. These have been kept mulched, and the ground about them well spaded all the season. I have also set out more evergreens, some for a wind-break, others for shade for bees; and have started some Concord grape vines and Virginia creeper for shade. Some of the latter has been set about the house, that it may climb upon it, and has already made a fine growth. I have also set out several kinds of bee-plants of more or less repute, the following of which have done well, and all yielded bloom except the two first, which will not bloom till another season: yellow trefoil clover, yellow Bokhara clover, mignonette, black mustard, Chinese mustard, borage, common and silver-leaf buckwheat, common and Chinese sunflower, and Rocky mountain bee-plant.

The following is the summary of the account with the apiary for the year:

APIARY.

| | DR. |
|---|---|
| To improvement of grounds | $26 17 |
| " experimental plats | 23 65 |
| " tools | 20 45 |
| " making hives, feed, queens, and care of bees | 84 81 |
| Total | $155 08 |

| | CR. |
|---|---|
| By 11 colonies of bees@$10 | $110 00 |
| " 506½ lbs. extracted honey@16@22c | 83 19 |
| " 148½ lbs. comb honey@22¼c | 33 90 |
| " 168 lbs. comb honey (unsold) @20c | 33 60 |
| " 55½ lbs. extracted honey (unsold) @15c | 8 32 |
| " 60 frames worker comb@10c | 6 00 |
| " 9 unoccupied bee hives@$2 | 18 00 |
| " improved grounds | 26 17 |
| " experiments on bee plants | 23 65 |
| " 70 lbs. asparagus@8c | 5 60 |
| " tools, record book, etc | 15 45 |
| " work bench | 5 00 |
| " lumber, oil, and paint on hand | 2 33 |
| Total receipts | $371 41 |
| Total expenditures | $155 08 |
| Net profits on 9 colonies | $216 33 |
| " " per colony | 24 05 |

CONCLUSIONS FROM YEAR'S WORK.

The experimental hive, strong in old bees, but which contained no young bees, as no brood was permitted to hatch after the middle of August, and which died in early spring, indicates that spring dwindling may come from the fact that there are no young bees in the hive when the bees go into winter quarters. This condition may arise either from a poor queen, a poor honey yield, or dearth of honey in autumn, when even the best queen will refuse to do duty; or, as has been the case here this fall, such a great honey yield as to give the queen no opportunity.

NATURAL SWARMING.

I have proved, what reason and a knowledge of the natural history of the honey bee would discover, that natural swarming is always suffered at a great sacrifice. This insures a queenless colony for nearly or generally quite two weeks, which is equivalent to the loss of a fair colony of bees, as a good fertile young queen will start a fair colony in this time, especially as this is generally at the time of the best honey season of all the year.

THE EXTRACTOR.

The great value of this machine has been again demonstrated during the wondrous honey yield of August and September. Although the bees had plenty of room in the supers—both boxes and frames—still they would fill up the brood space as fast as the bees came forth, so as utterly to preclude breeding. By extracting I kept the brood chamber replete with brood, while by omitting the same, breeding stopped entirely. I found, too, that this sent the queen into the supers, where she would lay if there was a possible chance; whereas she remained below entirely when room was given her in the brood chamber.

### POLLEN A REQUISITE TO BROOD REARING.

The fact that there was no brood reared in colonies destitute of pollen till the bees had gathered and stored some, seems a positive demonstration that pollen is an essential element of the food of the larvæ, though it is not required by the mature bees. The rapid increase of brood in the spring would also indicate that it is as well, if not best, that the bees have no pollen till they can fly out in spring.

### FEEDING MEAL.

The observations the past spring, sustained also by those of 1874, show that bees are pretty apt to be able to gather pollen as soon as it is best for them to fly in the spring,—by the middle of April,—and that feeding meal is unnecessary.

### EVERGREENS FOR SHADE.

Evergreens for shading the colonies, especially Norway spruce, not only serve an excellent purpose, but can be trimmed so as to make the apiary grounds very attractive from their beauty, and are to be strongly recommended.

### SAWDUST ABOUT THE HIVES.

The sawdust about the hives, underlaid with brick, by keeping the grass down serves an excellent purpose, as it enables one to see at once any bees that fall upon it, and thus ensures against loss of queen.

### LATE FALL FEEDING.

As all the bees wintered so well during the past winter, I could see no special difference between those fed late the previous fall and those that were not. All bred so late as to vitiate the experiment.

### HONEY PLANTS.

The experience of the summer shows that the following honey plants not only yield well, but that they bloom from early in July till autumn, covering a period when there is a dearth of native honey bloom: mignonette, borage, and black mustard. Chinese mustard is inferior to black mustard. It blooms earlier and the bloom fades away much sooner. Sunflowers are unworthy cultivation, while the Rocky mountain bee plant blooms too late to be valuable where there is plenty of fall bloom native to the region. With no native bloom to furnish autumn honey, it would be valuable. All of the above do well on light sandy soil.

### GOLDEN-ROD HONEY.

Our autumn experience proves that golden-rod honey, though rather dark, is of very superior flavor. Several good judges have pronounced it superior even to linn or white clover. A. J. COOK.

P. S.—*All* labor was performed by students.

## FROM DOOLITTLE.

OUR bees are ready for winter with the exception of putting about half of them in our "mud hut" as some feel disposed to call the plan given on page 132, Vol. II. After getting our bees in just the condition to suit us, we find we have 104 left. Some of our friends seem surprised that we should recommend a hive as small as the one we use holding but 9 Gallup frames. Perhaps they will think us more insane than ever when we tell them that in 1874 we averaged but 6½ frames to the hive, in 1875 but 7 frames to the hive; and now after all our doubling back we find we only average 8¾ worker combs to the hive. We hope next year to get up to 9 frames. Our hives are so constructed that we secure surplus honey from nearly every thing down to a 3 frame nucleus, and this in boxes. E. Gallup told us years ago that 3 frames with queen, and bees to cover them well was a swarm to all intent and purposes, and such a swarm will store just as much box honey in accordance with their numbers as one that would fully occupy 12 or 15 Gallup frames. The idea is, keep all hands at work, and if they can do nothing else they can build comb.

We are frequently asked about our boxes that we use, and would say here to all, that they originated with N. N. Betsinger, of Marcellus, N. Y.; that they are not patented, and that all Mr. Betsinger desires is that proper credit is given him as the originator and inventor of said box. This box is termed by some, the "Syracuse style" of box, for the simple reason that Mr. B. and myself with a few smaller apiarians in this locality have sold our honey to a wholesale dealer in honey in Syracuse, he shipping to all parts of this state, Pennsylvania, and most of the Eastern states. This box when filled, sells 5 cts. per lb. higher in our Eastern markets than the common 6 lb. Langstroth box, and 2 cts. higher than the 3 lb. Alley box. Novice would have you understand on page 278, that one-third of our honey crop was wood and glass, which shows that he is not thoroughly posted in regard to the matter. These boxes are only used in connection with the separators and are so constructed that when glassed, the glass comes within 1-32 of an inch of the honey, thereby getting the greatest possible amount of honey within the least possible space. If any person does not wish to sell glass, they are certainly better for packing for transportation than any other section box in market, as every comb is just such a thickness and can by no possible means be built so as to touch any other comb. In regard to the selling of our boxes, as we sell them glassed, compared with that sold unglassed, we will quote from the New York price current of Oct. 18th, 1876. "The feature in this market is the arrival of 10 car loads from San Diego, Cal. The honey is handsome but the style is not quite as well liked as that of our domestic honey. The small boxes contain but a single comb but it is not protected by glass. This saves the buyer something in tare but the comb is not so well protected." Our aim has been to please the people and we are well pleased with the results.

Novice says we use hard wood ends. This is so, but said hard wood is nearly as light as some soft wood (swamp elm being the lightest of all hard wood) and is only used because the tins that bend over the glass when filled, will persist in drawing out of soft wood during the operation. When filled the box holds 2¼ lbs., and 9 oz. of this amount is wood and glass.

Novice asks, page 245, what our starters probably cost us. We should say not over 50 cents per lb., taking every thing into consideration. Most of them are built at times when the bee would not work in boxes at all, namely from apple blossoms, dandelion and buckwheat. This is the time to get your comb for starters built and we should consider it a very poor apiarian that could not get a pound built from each stock during the season and not reduce the amount of his box honey more than one per cent. Buckwheat honey is at present wholly or nearly unsalable, and with a good yield 2 lbs. of nice starters could be secured with ease from each stock during its flowering.

We were not a little surprised at what was said on page 280 about moving bees. Would it not be a much better way to wait till after the bees had just had a fly and then as soon as it became cool again move them? Bees that have not had a fly for several weeks are generally loaded with their fæces and as soon as they are disturbed, they always fill themselves with honey and if they should not have a chance to fly soon, they would certainly have the dysentery. So it looks to us at least, from the experience we have had. G. M. DOOLITTLE.

Borodino, N. Y., Nov. 15th, 1876.

## BEE BOTANY AND ENTOMOLOGY.

A CHAPTER ON BOTANY FOR BEE-KEEPERS. BY PROF. W. J. BEAL, AGRICULTURAL COLLEGE, LANSING, MICH.

I AM frequently asked to identify or give names to certain plants upon which some person has seen bees at work. This does not usually occupy much of my time, especially if the specimens are well put up, as most of them are known at sight or after a few moment's examination.

But, the thought occurs to me, of what benefit can it be to the person sending the plant to know whether it is *Aster machrophyllus*, *Aster prenanthoides*, or *Aster grandiflorus ;* whether it is *Solidago petiolaris*, *Solidago Canadensis*, or *Soidago Missouriensis ?* My examples are some which are included in the list lately received. Of Asters, we have in the Northern States 41 species, besides perhaps forty to one hundred more which much resemble them, to a person unaccustomed to Botany. Of *Solidago* or Golden rods, we have 37 species and some others much resembling them. Scarcely one of these has a separate or distinct common name. Asters look too nearly alike to be distinguished from each other by any one but an expert. The same is true of Golden rods and of a vast number of other bee plants. If told once, the name of a species, people cannot be trusted, in many cases, to gather seeds or point out the plant. They will get the species and even the genera "all mixed up." Even the botanist gets some of them mixed occasionally. Our country is renowned for the abundance and variety of her Asters and Golden rods in September till the hard frosts appear. These are found in open or unwooded regions, in swamps, along streams, and on the prairies. The fact is, there are nearly a hundred times as great a variety of flowers which furnish bees with food, as most people imagine. On checking off for a noted bee-keeper who wanted to make a list of bee plants, he seemed much surprised at the great number, and said he only wanted the best of them. Which are the best? The forty one asters are all good. In one locality, certain species abound in great numbers; in other places some disappear and others take their places. To be sure, there are some asters and other plants affording good honey or pollen, which rarely exist in large numbers. The same is true of golden rods and of many other plants. I suppose a plant is desirable if it exist in quantity large enough to afford much food during a long period, or if it afford food at a certain time when most other flowers are scarce.

I have made the action or behavior of insects on flowers a study for years. Some flowers are only visited in the morning or forenoon, as the dandelion; others in afternoons, others at all times of day when not raining. I tell no news by saying that basswood and raspberries afford good honey, while tulip tree and lobelia afford honey which is unpleasant or unwholesome to some persons.

The *Ranunculaceae,* Crowfoot family, afford us 30 species or more upon which bees work; some of them open very early in spring. The *Cruciferae* or mustard family, about 70 species; *malvaceae* or mellon family, over 20 species; *Geraniaceae* or geranium family 13; *Anacardiaceae* or sumachs, six; *Tilaceae* or vine family, 7; *Sapindaceae* or maples etc., 11; *Leguminosae* or Pulse family, 110 or more natives, besides some exotics; *Rosaceae* or rose family, 83 and several exotics; *Saxifragaceae* or Saxifrage family, about 30; *Caprifoliaceae,* Honeysuckles etc., about 30; *Compositae,* Sunflowers, asters etc., perhaps 325, besides many in cultivation; *Lobeliaceae,* Lobelia family, 13; *Campanulaceae,* Bellflowers, 7; Ericaceae, heath family, 60; *scrophulariaceæ,* fig worts, about 60; *Verbenaceæ,* verbenas, 10; *Labiateæ,* mints, many of much value, 78; *Borragineæ,* Borage family 28; *Asclepiadaceae,* milkweed family, 25; *Polygonaceae,* Buckwheat family, 38; *Liliaceae,* lily family, 50. Besides these there are many where there is only one or two or a few in a small order, perhaps not far from 570. Then probably there are a hundred or more about which I am uncertain. If I have added correctly, I give above, about 1775 species from which bees get more or less honey or pollen. These grow east of the Mississippi river and north of Kentucky in the United States. Some, like the grasses and pines, have no showy or fragrant flowers and afford little or no honey. As a general rule, those plants which produce odorous or showy flowers afford honey and will be visited by honey bees unless the flower is of a shape which makes it impossible for the bee to reach the food.

It would be a great source of pleasure, and in some cases perhaps of profit also, for every bee-keeper to be a good botanist. In fact, every person should study botany more less, as any one can if he only tries and perseveres. The culture it gives, the enjoyment, the discipline, all place botany in a high position as a science.

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## HONEY DEW.

I SAID in my last communication, the absence of all wild and cultivated flowers during this year, 1876, was very like the year 1865, but owing to the atmospheric constitution favoring the development of this "myth," Honey Dew had caused this to be remarkable as a bountiful honey season. We have removed honey boxes until tired out and now all the boxes are full on the colonies. Some hives have comb a foot long attached to under part of the triangle, well filled with as nice honey as any in boxes; the bees having been driven in by cold weather. One large box hive, empty, sitting in contact with a full colony on either side, was filled with honey nearly as white as the driven snow, and abandoned upon the approach of cold weather. It contained over 4000 cubic inches of honey.

Why do I call this Honey Dew a myth? Because as yet, no satisfactory explanation of its production has been given. We are all conjecturing and each man has his theory. Langstroth and others attribute it to Aphides. I have seen cotton fields covered with it. In riding through prairie grass at early dawn, I have been stuck all over with it and my horse made so disagreeable that ablution of myself and horse was necessary before proceeding. I know apiaries bordering on these floral praires, often of the old fashioned gum hive or barrels, kegs or any other rude hollow material, during a Honey Dew season to yield vast quantities of as pure nice honey as ever was taken from box or frame. There among grass and flowers was emphatically the land that flowed with milk and honey. The Honey Dew mystery has not been solved.

Dry weather is *sine qua non* to production of Honey Dew. Every observer will testify to this fact. It will continue as long as the dry weather lasts and cease with the first heavy fall of rain. No man ever saw Honey Dew to any extent during a wet season. Whatever produces the Honey Dew of this region of country renders our apiarians rich and prosperous in such seasons—they are poor without it, for all the honey bearing blossoms furnish more the pabulum of bee life than they do of pure honey in wet seasons.

I hope some enlightened contributor of GLEANINGS will give this Honey Dew subject his attention and communicate whatever he may discover, to the world of science and thereby give an impetus to investigating the effects of vegetable respiration and chemical affinities in floral regions. I am free to confess my entire ignorance of the true causes resulting in the compound called Honey Dew. That the aphis and some other insects distil a kind of nectar, I know to be the fact; but the idea that it can spread a mantle of honey over vast acres of country, both prairie and wilderness in one night, and for a succession of nights lasting weeks and months, is simply absurd. Honey Dew in our present condition of knowledge appears as a result of something—we do not know what that something is.

GEO. B. PETERS.

Council Bend, Ark., Oct. 29th, '76.

## SWEETS BY THE CAR LOAD.

### Two hundred thousand pounds of California honey.

WHERE A VAST TERRITORY, HITHERTO ALMOST WORTHLESS, HAS BEEN MADE MOST VALUABLE.—DIFFICULTIES OVERCOME IN BEE CULTURE.

MR. J. S. Harbison, of San Diego county, California, arrived in this city yesterday with ten car loads of honey, each car containing 20,000 pounds. This vast aggregation of bee labor was taken from Mr. Harbison's six apiaries on the sides of the Coast Range of mountains, as near to the Mexican line as they well can be and yet claim the protection of the Stars and Stripes. Twenty-five years ago Mr. Harbison made a stir in the bee world by selling at one time two thousand pounds of honey, the product of his apiary, near New Castle, Pa. So much honey had never before been raised by a single producer, and the sale led hundreds of staid farmers to embark in what looked like a most profitable field of industry. The result was not flattering. Short seasons and limited bee pasturage forbade profitable bee culture. Old-fashioned hives were then the only kind known. The modern means of robbing bees without killing them had not then been thought of.

Having invented a hive that enabled the culturist to obtain successive crops of honey from the same colony of bees, Mr. Harbison began to look for a region that would supply the food for the bees. He searched for this in the equable climate of the Pacific coast, and found it in a narrow strip of country in the extreme south-western corner of the United States, now known as the bee belt of California. Sheep raising was the only industry of the natives found by Mr. Harbison when he first visited the country. The country inland was thought good enough for sheep pasturing, but no one dreamed that the soil could be made to produce grain in paying quantities. Timber was confined to the bottoms of running streams and to the cañons, the valleys and hill sides being covered with a growth of stunted brushwood from which sprang a luxuriant growth of white sage, sumac, and other flowering shrubs, which bloom there nine months of the year.

Mr. Harbison's first apiary was started on a mountain side, twenty miles east of San Diego. He embarked for the West with seventy hives of bees, but these were reduced to sixty-two by casualties. From them he now has six apiaries, and a total of 3,000 hives. He employs fifteen men constantly, and is reaping rich profits from many thousands of acres that must otherwise have been a barren waste. He soon had many imitators, and now not less than three hundred persons are taking honey along the "Bee Belt."

Samples of the honey and a stock of bees, brought East in one of Mr. Harbison's hives, are on exhibition in H. K. Thurber & Co.'s ware-rooms.

The California bee season, Mr. Harbison says, begins by Feb. 1. In March or April the bees swarm, and the bee culturist has lively times in saving the swarms. The science has become so systematized now that the apiculturist knows within a day or two when a given hive may be expected to swarm, and as the young bees always settle near the parent hive at least once before selecting their new quarters, a swarm is seldom lost. The flowers are at the height of their luxuriance in May and June, and the taking of honey is begun usually about May 20, and the bees are kept at work as long as the flowers last. They cease to bloom in sufficient quantity to more than subsist the bees in the early part of August; but the little workers are able to find enough to live on without consuming their stores as late as October. It will thus be seen that the harvest time is never longer than three months and is often much less. After October begins, although the air is still mild and spring-like, the bees cease to work, and retire into a semi-dormant condition. Once every eight or ten days a colony will turn out at midday and fly around for an hour or two in the sunshine but they never fly far from the hive, and are never seen at work.

The food of the bees in the bee belt is generally the flower of the white sage, a plant that closely resembles the garden sage. This is not to be confounded with the sage brush of Nevada and Utah, which is of the wormwood species, and has the family bitterness. Next to the sage in importance as bee food is the sumac, a shrub that grows in California without poisonous quality. In fact, there is no poisonous flowering plant in the bee range, and the honey has none of the colicky qualities that make Eastern grown honey objectionable. The honey is graded by the culturist according to the plant from which it is derived. That made from sage flowers, being clearest and most aromatic, is most valuable.

Mr. Harbison says that notwithstanding the great crop he has brought to this market, he will probably not realize more than $1,000 after deducting expenses and interest on capital. He had to dig his bee ranch out of the wilderness. The roads thereto over rocky mountain sides and deep cañons, were built at heavy cost. The continuous labor of fifteen men is needed in the care of propagation and harvesting. The hives, boxes for shipment, and household supplies have all to be transported from San Diego, forty miles from his most remote apiary. It costs about four cents, gold, to freight a pound of honey by water to San Francisco and by rail to New York. Taking into consideration the commissions and currency values realized here, there is no great margin left for profit.—*New York Sun.*

## TRANSFERRING.

AS I think transferring and fastening combs in the frames can be done much more rapidly in my way than in any I have seen, I will take the liberty of describing it to you. If honey is plenty and bees not inclined to rob, blow a little smoke into the hive, (on the old stand) split it in pieces, have some clean boards ready, brush off the bees, sort out the combs and put each kind by itself so you can get any of them you want to put into the frames. To prepare the frames, stick small tacks in the top and bottom of the frame, take a piece of fine wire long enough to go across as many times as you wish, fasten the wire to one corner, put it around two tacks from top to bottom on one side and fasten. Lay the frame on a board with the wire down, fit in your combs and continue to wind the wire on the other side around the same tacks. If there is a bad place in the comb and the wire does not come in the right place you can stick in more tacks and continue the wire until it will support heavy combs. I think I can transfer a stock in this way as quickly as I can divide a swarm into an empty box the old way. I have packed my bees in sawdust, shavings from planing mills, and chaff since 1870. To make my boxes I get inch boards, get them resawed, get out cleats one inch square and the length of box; nail on the board on two sides half inch from end of board, the other two sides nail one inch from end of board; that makes the corner come right. I drive nails in the corners and tie with annealed wire, but perhaps some would prefer hooks. Slant the roof four inches, make the cover by putting on cleats. These parts of the boxes are handy to use in summer when hiving, and in case you have no grape vines they can be used for shading the hives. I remove them from the hive just as apple trees blossom. I put up seventy this way last winter, and they wintered well. When I removed the boxes I found plenty of brood in the hives; one had brood in all stages on edge of combs next the glass, but it was removed in two days after they were taken out of the chaff. The cover should be removed from the hive. The chaff should not be less than eight inches deep over the hive and must not touch the upper cover. Do not think of leaving the packing on all summer to keep them cool any more than you would think of wearing an overcoat to keep yourself cool in hot weather. I have left the packing on a few to try them and they got so hot it nearly stopped their working.

I have tried Mr. Bolin's plan of removing the old hive when it cast its first swarm, to prevent after swarms; but this year the plan has failed in every case. I removed fifteen in June, every one of which cast off a second swarm and fourteen of them swarmed again in Aug. I have had six natural swarms from one in several cases this year and five of them stored enough for winter without assistance. My increase has been quite large this season, 125 swarms from 85 in the spring. Honey yielded very lightly only 2375 lbs. from the 85, but they were not very well cared for. I have 60 swarms in hives with combs 10x17. Shall sell the old style hive (combs 12 wide 14 deep) this fall, have 150 of them. If I succeed in selling them I think you may look for more subscribers for GLEANINGS from this quarter. L. KELLEY.

Ionia, Mich. Oct. 23d, 1876.

## REPORT FROM W. S. LUNT.

THE season of 1875 gave us here no surplus honey, except during fruit blossoms; but colonies were strong in bees. They did not swarm naturally and in August I divided, giving each new colony an Italian queen, many of which were killed, and their places filled with queens raised from brood or eggs. Thus the time for increase of bees passed till late in the season. Frost came, Sept. 11 and 15th, when the flowers died, and honey supplies ceased. I fed over a barrel of coffee sugar, a large part of which was consumed early; and as a consequence my 18 swarms were reduced to 5 good ones, and one very weak, for the spring of 1876.

This has been the best season I have ever seen. My 17 colon [illegible] e strong in numbers and supplies. I lost one with worms, and came very near losing another by a singular loss of the queen. After putting a rather small, late swarm, into a hive, I concluded to add to its strength by giving it a still later natural colony. Shortly after, I noticed the bees were idle, and did not quickly enter the hive, though honey was abundant. On opening the hive I found them without brood or queen, though they had received two. I gave them an Italian queen since which they have prospered.

This season bees, especially the Italians, would not work in boxes placed at the side of Quinby frames or on the top; though every box was supplied with comb guides. I should have been short of honey, but for the extractor, and a few section boxes which were tried as an experiment. The section boxes will be used more extensively another season and also a trial of fdn. made.

All except a few are now packed in Quinby hives with chaff packed in all sides but the bottom. These are removed to a false bottom board and returned to the same hive, leaving an air chamber below it of 1¼ inch. For four or five years past, I have wintered in this way on the summer stands.

I have lost many, but could as I thought, always find sufficient reason for such losses, without attributing it to any fault of winter quarters. Ignorance explains much and perhaps nearly all. Leaky roofs, weak colonies, insufficient stores, loss of queens, etc., etc., tells the story of many discouragements from losses. To learn how and what, to hold on and never give up, is perhaps some part of the habit of my life.

W. S. LUNT, Fostoria, O., Nov. 1st, '76.

## REPORT FROM L. C. ROOT.

I COMMENCED the season with 132 swarms and increased to 188, have taken a little over five tons of surplus. About two tons box and balance extracted. This we consider about an average season; much better than last year and not as good as the season before. L. C. ROOT.

Mohawk, N. Y., Nov. 8th, 1876.

As an evidence of the soundness of friend Root's teachings, which are found each month in the *Am. Agriculturist*, we cite the above. When our successful honey raisers can be induced to write for the people, we may be pretty sure it will be safe to follow their teachings.

## CHAFF HIVES.

THOSE hives were packed all summer under the bottom and not at the sides. Heat promotes swarming, and therefore your chaff hive will be a failure in summer. If you had my kind of portico your hive would be good for winter. There are times when bees would not fly in four months with such entrances as yours. In mine the portico is several degrees warmer than out of it when the sun shines in winter, but it is shady in summer. Bees will fly when I want them to by opening the outer door in fair weather. J. L. DAVIS.

Delhi, Mich., Nov. 6th, 1876.

If our hives will keep the bees in for four months at a time, and yet have the entrance open as in summer, it is certainly just what we want. It is just the way the Q. hive did, and they did not even get out to work on the meal when the rest did; but not a bit did it hurt them. If it proves too warm, we shall have to contrive some way to cool them, and without pulling it all in pieces every spring either.

My summer stand for bees is out of doors on a bench. Do you think they will winter with chaff cushions over them, with nothing around them but a ⅞ inch board? C. N. R. TENCH.

Newmarket, Ontario, Can., Nov. 7th, '76.

About 30 of our hives are arranged in the way you mention, and we have little fear but that they will winter, for they usually do *without* the chaff. The principal idea is to avoid the spring dwindling; and although the quilt alone will not answer as well probably, as the whole chaff covering, we think it will be better than none, or as good as the straw mats which have answered so well. Where the colony is not very strong, we remove a comb, or even two combs on each side of the cluster, and put a cushion in their stead; this protects all except the ends of the frames. With a portico at each side, and chaff pillows in these, and a box of chaff to go under the hive, we should get clear round, but it would be more more bother than the hive described last month. All these plans will be pretty thoroughly tested this winter.

I don't know how you will like the plan of having two stories packed; shall watch the experiment with interest. It looks as though it would work well unless

*Will our friends excuse us, and turn to page 306.*

## OUR OWN APIARY.

MR. Stanhope when here, expressed himself decidedly in favor of bees having a strain of common blood, for *comb honey*. The reason he gave, was that black bees will go to the top of boxes and commence work, while the pure Italians, will only work upward; the same idea has been many times spoken of, and accounts for perhaps all the statements we have had in regard to the superiority of the blacks for comb honey. It is our opinion that there is no need of this, for the Italians fill every comb in the lower story, much more completely than we ever have found the blacks to do, and all that is needed, is to get the section boxes so near the brood apartment, or to open the way into them a few at a time, that they may not consider they are getting away from their brood. Perhaps we may by selection, get Italians without this peculiarity so strong, for it is quite certain that stocks differ greatly in this respect.

*Nov. 13.*—Aha! And may it not be that there is something else to be considered before we give the blacks and hybrids too much credit for the way in which they commence in boxes when the Italians do not? We have to-day been lifting the bees out of the thin hives, and setting them in the new chaff hives, and as we have before remarked we find the Italians with their combs crowded, but the hybrids that have given their largest crops of comb honey late in the season, have some of them not half enough for winter in their brood combs. We confess to being somewhat astonished at this result, for we had always supposed colonies that had stored in boxes would have a great abundance for winter. If this is to be the programme, we shall say give us the bees that look out for their winter stores, in preference to those that carry all their gains into the boxes above. What a nice thing it is to have a stock of those combs that weigh down like iron wedges, for such emergencies; two or three at most, will fix any colony, for we have some that weigh as heavy as 8 lbs. In one case, we put a large colony on six of these heavy combs, and have narrowed the space with chaff cushions, so that they cover the six combs almost completely. About next May, we expect to see the contents of these heavy combs manufactured into worker brood.

Nov. 20*th.*—Mr. Stanhope said that where none but Italians were kept, he thought it unnecessary to take the trouble of brimstoning comb honey, for it was only once in a great while that any worms would be found. Our experience has been much the same; and if a little care be taken to pick off the webs as soon as they make their appearance, no more will be seen, although a single worm may make considerable mischief, if allowed to grow to full size. Another item: Mr. Pierson, told us a few days ago, that moth worms bred only where there was pollen. We were at first much inclined to doubt this, but on looking over a lot of our filled combs, we found the worms had been at work where cells of pollen were found, and nowhere else. On one comb, we found a frightful nest webbed against the next comb; and this one contained a solid patch of pollen, that the worms had partly consumed. If this should prove the case invariably, it would be an aditional reason for keeping pollen out of our comb honey.

*Nov. 23d.*—For the past two days, we have been enjoying the rare pleasure, of a visit from Mr. G. M. Doolittle. The characteristic of this man as an apiculturist, seems to be an intense determination to make his bees self-sustaining, and to make them bring in more money, even during the very worst seasons, than is paid out on them. Not only does he aim to get all the nice white honey that his bees gather, but he aims to get it in the most marketable shape. The implements he uses are all strong and substantial and every thing is calculated for going right along without any hindrance or bother during the working season with the bees. Again, he is a man who is perfectly satisfied—or seems to be—with his frame, hive, honey box and every thing else for aught we know; having no disposition whatever to change about, every season or oftener, to the annoyance of his bees and every body else, as some one does who is pretty near our own weight and dimensions.

We shall with the January No., commence a series of articles detailing his method, also giving a full explanation of his hive with diagrams. Although many will feel like objecting to a brood chamber so small—9 Gallup frames—when we look into the way in which he handles them, we begin to understand how he gets so much comb honey, and gets it in such very nice shape. There are very many who report large yields from single colonies, but the number who can report a steady cash income from their apiaries, good seasons and bad, as does Doolittle, are few. Again, his apiary is not encumbered with miscellaneous traps of doubtful value. He has only his one style of frame, and just one honey box with no thought of tolerating anything else in his apiary, under any circumstances.

## REPORT FROM J. S. HILL.

I CAN not consistently give you a report, without including last season also, which was the hardest season to get along with bees I ever experienced; call it "blasted hopes" if you please. I had 85 hives in the spring, one of which became queenless; having no queen for it I united it which left 84 hives. Bees got but little from the flowers, the whole season did not make it up, and I fed 2300 lbs. of honey and sugar to stock them for winter; with all the trouble of feeding they went into winter much weaker than usual. They wintered without loss. This season has been the best for honey since 1862. I increased to 102 hives and got a little over 10,000 lbs. honey; 3883 lbs. sealed box honey, the balance extracted. Did not extract from the lower story, the hives being very full of brood. At the close of the honey harvest which was about the 4th of July (and they did not gather enough to winter on) had to feed near 900 lbs. to stock them up for winter. As there has been much said in regard to having sealed stores for winter, I will add that I have no choice as to whether they are sealed or unsealed; if there is any difference those with plenty of unsealed stores breed fastest in the spring.

J. S. HILL, Mt. Healthy, O., Nov. 14th. '76.

# GLEANINGS IN BEE CULTURE.

**Published Monthly.**

A. I. ROOT.
EDITOR AND PROPRIETOR.

MEDINA, OHIO.

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*[Including Postage.]*
*For Club Rates see Last Page.*

MEDINA, DEC. 1, 1876.

AND they come to Jesus, and see him that was possessed with the devil, and had the legion, sitting, and clothed, and in his right mind: and they were afraid.—Mark, 5:15.

◆

OUR annual price list of implements, will not be sent out this season until spring.

◆

WE are glad to be able to state that GLEANINGS and the *A. B. J.*, will after this date be sent, for 1877, for only $2.25.

◆

ALL sealed honey found in the section boxes that are to be kept for next season, should be uncapped and extracted if we wish new and bright looking honey next year, so says Doolittle, who certainly ought to know.

◆

REMEMBER sending wax by express, is expensive business. We have received several small lots on which the express charges were as much as ¼ the value of the wax. We have now so much invested in wax, that we dare not offer more than 25c., and you can all probably do better than that at home.

◆

FRIEND ROOP reports on page 311, a clear profit of $1521.10, from 150—see page 115—in the spring, besides having 190 now. Had he occupied a couple of pages, instead of about a dozen lines, he could not have given us an argument half as convincing, in favor of Italians and movable frames.

◆

NOTHING can be much nicer for a bee-keeper's parlor table, than a stereoscope, and a collection of views. We can furnish good stereoscopes for $1.00 or $1.25 if sent by mail. Perhaps the best way to get views, will be for each one to get a dozen or two of his own apiary, and then exchange. We will send one of ours, in exchange for that of any of our readers. Views of some of our California apiaries, would be very desirable, especially those among the mountain gorges.

◆

OUR friend Washburn has been unusually busy for some time past, and now presents a very pretty machine for making fdn. for surplus boxes only. The rollers admit of making sheets 5 inches in width, and as long as you please, and his first trial produced sheets so thin that perhaps 8 sq. feet would be required to weigh 1 lb. We can furnish these small machines complete for $30.00, and it gives us great pleasure to be enabled to put the price so low.

◆

WE really beg pardon for our seeming disregard of the convention at the Centennial, but for us to leave on the 25th of October, was next to an impossibility. Had we made arrangements to have our November No. out before that time it might have been done, but the thought that it was possible for us to go, scarcely occurred to us until Nov. 1st. As most of our hands went in Oct., it was an unusually busy month, and an accident about the [illegible] obliged us all to work night and day, to give you your journals with our usual promptness.

◆

IT seems to us that every one of our readers, whether farmer or something else, *must* find the *American Agriculturist* a good investment. A single number is often worth the price for a year. Full of the most wholesome teachings, illustrated with abundance of engravings of "how to do things," and carefully weeded of all hurtful blunders that so detract from the value of most of our agricultural papers, we can not but wish it God speed through the homes of our land. Sent with GLEANINGS for $2.25.

◆

IN using chaff for out-door wintering, it is well to have a vacant space above the chaff under the roof; and the roof or cover must not be too close fitting, or you will have frost and dampness collecting on its under side, that may run down and wet the chaff packing. If you will take a look at the under side of the cover after a freeze, you will get the idea. To carry off this dampness, the air must be allowed to circulate to some extent above the chaff; raising the cover a little, or having holes covered with wire cloth just under the eaves, will answer. Be sure you keep the chaff dry, and that none of your covers are leaky.

◆

WE have had very pleasant visits with our young bee-keeper Lloyd Z. Jones who called on his return from the Centennial, and our friend Axtell, of Roseville, Ills. Our readers will remember the pleasant letters from Mrs. Axtell. Well, they use the Q. hive, and pack them in chaff for winter, and then carry the whole, outer case and all, into the cellar to winter. If any are inclined to smile at such pains, let them bear in mind that friend A. has never lost a colony, while all the rest of us have been losing by the——guess we won't say how many. When asked if they had tried leaving a part of them out when thus prepared, he said they had until satisfied that bees and honey enough were saved to pay well for the trouble. Two men would carry in 60 in a half day, with ease.

◆

MR. DOOLITTLE brought us a cake of yellow wax to be made into fdn.—5 cells to the inch for brood comb—that for beauty and purity, goes considerably ahead of any furnished us heretofore. When questioned he said it was purified with vinegar, as given in Quinby's book. On turning to the page we find:

"By adding an acid to the water in which the wax is melted, it may be separated much more readily. A quart of vinegar to a gallon of water, or a small spoonful of nitric acid is sufficient."

Such wax makes beautiful yellow fdn., and it will without doubt pay to treat it all thus for comb honey; but for the brood chamber, we believe the dark wax to be equally good.

◆

MR. D. took his knife and pushed it through the bottom of the cells of a piece of natural comb; of course it found but little obstruction. He then tried it on the fdn.; the knife struck the bottom and stopped. We looked up some with thinner bases—some, in fact, that seemed to look at, as thin or very nearly as the natural comb—but the bases still stopped the knife blade in a way that the natural did not. It finally occurred to us to test the side walls in the same way, and behold, *they* were tough and hard compared with the natural comb, even when raised to full depth comb. The mystery was then solved; although the bees can work white wax, it is so much harder that they do it slowly and laboriously, compared with the yellow, and as most of friend D's. experiments were with the white fdn., it is no wonder that his bees with the natural starters went ahead. He promises to give the yellow a farther test next season.

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Now if you wish to get the real value, of this Index, you should have a binder (those we send by mail for 50c. will hold 3 Vols., and are very neat and handy) and then you can find anything you wish, can at once get at all that is said of any particular thing, or if at any time take a liking to any particular writer, you can turn to all his articles readily, and get so well acquainted with him that it is almost like paying him a visit. Furthermore, if you have all the numbers nicely preserved, you may be able to sell them for more than cost, for we are now offering $1 for Vol. III that only cost our readers 75c., and we find it hard to supply the demand. Vol. IV, bound with brass clips, free by mail for $1.00.

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**Binders.** A. I. Root.

**Candy for Bees.** A. I. Root.

**Cards.** R. W. Clark, Jan. to May. A. H. Peake May.

**Comb Foundation.** John Long Feb. and March. C O Perrine April and May. A I Root Aug. to Dec.

**Empty Comb.** F T Nunn June and July.

**Engines.** J Leffel & Co. July to Nov.

**Engraving.** Miss S E Fuller Jan. to Dec.

**Extractors.** A I Root Jan. to Dec. D A Jones April to Aug.

**Hives.** H. Palmer Jan. to May. C. F. Muth year. F. M. Dickinson Feb. & March. H. Harrison Feb. J. Oatman & Co. Mar. to Aug. A. I. Root May to Dec. J. S. Woodburn June to Nov. M. S. West June to Dec. W. F. & J. Barnes Sept. to Dec. D. A. Jones Apr. to Aug. G. M. Doolittle Dec.

**Honey.** Barnum Bros. & Co. Sept. H. K. & T. B Thurber & Co. Sept. to Nov. J L Wolfenden Sept. to Nov.

**Honey Boxes.** C R Isham Jan. to May, and Dec. Barker & Dicer Apr. to June. G T Wheeler April. A I Root Feb. to Dec.

**Honey Jars.** B L Fahnestock Jan. to June. C F Muth year.

**Honey Plants & Trees.** C F Lane Feb. and Mar. J L Green April and May.

**Implements** for the Apiary. L C Root Jan. to Mar. A I Root Feb. Sup., Mar. to Dec. G T Wheeler Apr. G M Doolittle Dec.

**Imported Queens.** Dr J P H Brown Jan. to Apr. Ch Dadant & Son year. Keystone Apiary Mar. to May.

**Medley.** A I Root Jan. to Mar.

**Paint.** Averill Chemical Paint Co. year.

**Potatoes,** J H Townley Mar. and Apr. W L Lunt April.

**Poultry.** R M Argo Feb. to May.

**Periodicals.** The Beekeepers' Mag. year- The Bee World year, The British Bee Journal Feb. to Dec. American Bee-Journal. Der Bienenvater April to May.

**Queens.** J P H Brown year. G W Dean year. J Oatman & Co. year. E W Hale year. J M C Taylor year. Dadant & Son year. J M Brooks Jan. to Mar. Staples & Andrews May to Nov. W P Henderson Feb to Mar. J Oatman & Co. Feb to Nov. J LaBarre Apr. to Oct. D A Jones Apr. to Aug. R M Argo Feb. to May. H Alley May and June, Aug. to Oct. T G McGraw Apr. to Aug. J Shaw & Son May to Aug. J H Nellis and Bro. May to Oct. W H Balch May to July. I Cross May to July. Miss A Davis May to Dec. A J Weidner June to Nov. J B Dines June to Aug. J S Woodburn June to Nov. E C Blakeslee June to Sept. P H Gibbs July to Oct. W P Irish July to Dec. J A Buchanan Aug. R Morgan July to Dec. J W Cramer Sept. and Oct. L Z Jones Sept.

**Saws.** W F & J Barnes March to Dec. Combined Power Co. March to Dec.

**Seeds.** C F Lane Feb. Mar. May and June. A A Rice Feb. to Apr. C F Muth year. A I Root Feb. to Dec. H R Emminga & Son June.

**Smokers.** H Alley Oct. L C Root Jan. to Mar. A I Root Feb. to Dec.

**Windmill.** U. S. Wind Engine & Pump Co. Mar to June.

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It is quite customary to print flattering testimonials from advertisers, but we cannot remember to have seen a letter in print from any who gave the other side of the story. We have had some personal experience in wasting our money in paying for ads. that never gave us any return whatever, and yet these same papers would persuade that their columns were the very best mediums in the world. Now we do desire to have those who send us money for advertising, feel that they have received a full equivalent; and if such investments do not pay, we wish to have it understood, that we may use our pages for something that *does* pay all parties interested. Mr. Heddon and Mr. Becktell, both complain that they have made no sales from advertising bees. Although there are two good reasons for this—other parties offered them lower, and few like to risk purchasing in the fall—we should like to have a full expression from our advertisers; if every thing is not satisfactory, let us know it by all means.

### ABOUT GLEANINGS FOR 1877.

It will probably be of the same size it now is, and the price just $1,00; it will, we suppose contain the usual amount of blunders, but mixed with them, we are going to try to have much that is good. For the benefit of the brothers and sisters who use spectacles, we have purchased the whitest of paper for it, and we are going to print it with the blackest of ink. To make every thing plain, we would like to have it crammed full of pictures, but good pictures cost an awful lot of money—why you would be surprised to learn that friend Rice's apiary cost us but a few cents less than $40,00, and the one in this No. almost as much, had not friend Muth paid over one-third of it himself. We can but feel that we have never deserved these kindnesses, from such whole-souled generous friends scattered about. I hope that every one who contributes to GLEANINGS, or who sends a dollar towards its support, will be free to submit their opinions in the way of suggestions, that we may know just when we are pleasing you. And now before saying good bye, we wish to add that you can not *think* how much it pleases us to get tokens of approval in the shape of letters with dollars in 'em.

## FRAMES BUT 6 INCHES DEEP.

I SEE that in the Nov. number you have printed my article from the *A. B. J.* entitled "The Best Hive for all Purposes;" and it is for the purpose of noting some of your criticisms that I am now writing.

And first I claim it as high praise when you admit its adaptability for box honey. I take it that box honey is what most of us are striving for, and when we have got a hive that is best adapted to that purpose we ought to study how to attain other points, without destroying this one vital point. But I go farther; I claim that this hive is every way the equal of any other hive for the extractor, and when you want to work rapidly the large frames are not to be compared to those low ones. I think I am safe in the assertion that I can get the bees off two combs from my frames in less time than it would take to get them from one of the Langstroth construction.

Why? Because I have no bottom for a bee to get under and bother me, in my frame, and because I can uncap the cells more rapidly in a narrow comb than a wide one, I have no difficulty in handling the tenderest comb in the hottest weather.

But your chief objection is that "great losses in wintering have resulted where such hives have been largely in use." I admit that Mr. Bingham has had heavy losses, but I cannot admit that the fault was with his hives, for the reason that the great majority of those who use his hives, in this vicinity, have succeeded as well as those who use any and all other kinds, and in many cases better. Indeed, the worst cleaned out bee men around here are those who use the old box hives.

My practice is to lift half the frames to the top of the other half—this makes the hive 12 inches deep—then move the whole back to the middle of the bottom board, and put in an extra set of front and rear boards, leaving a space of three inches which I fill with *very dry* saw dust or wheat bran, and cover the bees with a box of bran with a cloth bottom. Have the bran say 3 inches deep, and leave this packing till the time to put on boxes, (as my hives are placed on the ground I use no bottom packing), say in June. With this packing the bees put their brood in the outer combs almost as freely as in the interior ones.

As all the lumber I use in packing goes without further work on it into new hives, I have no waste, and no useless lumber to store away.

You ask if the combs are not very often fastened to the bottom board? I answer, never.

Did you ever see the combs in the old-fashioned box hives? It is the same in this low hive.

JULIUS TOMLINSON.

Allegan, Mich., Nov., 1876.

This low frame *has* a very special interest to us; last spring we mentioned an experiment to determine if a hive could not be made of Universal section boxes and nothing more—piling them up as the colony increased, and removing for sale as fast as any were capped and suitable. Such a hive would be very cheap, and about as simple as a pile of bricks. We regret now that we did not carry the experiment farther, especially as we found later in the season, that such sections could be handled beautifully, when thus piled up 2, or even 3 high. There is a trouble in having the brood sections as far apart as those for surplus, but doubtless this can be remedied, if bees will breed profitably in combs but 6 inches in depth.

## WINTERING, STARTERS FOR COMB HONEY, ETC.

IT would make you smile to see our long rows of hives all packed and tucked up with their winter hoods on, all ready to receive old Boreas; and you can bet all your old boots that none of them will starve for want of honey. We have taken extra pains in putting them up this fall, for we noticed that the loss of bees has been very great, owing we think, to the queen stopping brood very early, and so much chilly weather during September and a greater part of October. We also noticed a few days ago, when the weather was very warm and the bees flying very briskly, that a great many alighted on the fences and boards all over the apiary, and many of them seemed to be quite dumpish. We shall watch them closely.

The past season has not been an extra one for honey, but after footing Dr. and Cr. we find our income from the apiary will be $750.00 for comb honey, nearly all sold at 20c., besides the increase, 20 colonies. We have now in winter quarters 83 swarms. Since we have wintered in chaff boxes we are not all the time worrying about the temperature, sudden changes of weather etc., and they are always ready for a fly whenever the weather is suitable. But mark this; we have a row of hives facing north, and close up to a tight board fence; the sun never shines on these hives from October until April, and the weather must be remarkably warm in the winter to arouse the bees to fly much, while those standing in the sun will be flying briskly. Yet these northern stocks are always strongest in the spring.

The impulse to swarm the past season was very great, but we managed to keep down the quantity of new swarms to quite a moderate number, using the bees for surplus instead of increase. But it takes some labor and sometimes a considerable stock of patience.

### COMB MADE TO ORDER.

Mr. GLEANINGS how do you like that? But mark ye, we refund no money to dissatisfied purchasers. No sir 'ee! We work in this way to get comb for guides, and can get all we can use. Take a hive four or five frames larger than the size you use, transfer your swarms to it, put in a tight fitting division board letting it be ½ inch short so the bees can pass under it to the other department. Put boxes on the part above the main hive, and hang in the other side, frames two inches apart from centre to centre. Now if the hive is crowded with bees they will pass under the division and build comb on these frames. But the queen will not go through, neither will much pollen be stored in it. Every three days, if honey is plenty, these combs can be removed, the honey extracted and combs cut into strips for surplus. The beauty of this comb foundation is they don't sag or stretch, but are O. K.

Did I understand that you would like to have your bees swarm when fruit trees are in bloom? I am forced to that conclusion by some remarks from you in GLEANINGS some time back. I return all swarms that issue when fruit trees are in blossom, and consider it the better way, in my location.

J. BUTLER, Jackson, Mich. Nov. 15th, 1876.

We do not know that we should care *to have* swarms during apple bloom, but we wish the colonies *strong enough* to do so. Ten stocks ready to swarm at this season, might yield more profit than 100 ready to swarm by the middle of July; but if extracted honey were wanted, we should try to have *no* swarming. It seems that you and Doolittle, friend B., would get along without any occasion whatever, for fdn.; we shall rejoice if you are correct, and will be glad to publish anything that will help the matter along. As we dislike all unnecessary machinery about the apiary, we shall be very glad indeed, if natural comb can be produced at a price that will render fdn. unnecessary for comb honey; but friend D., who is now at our elbow, says he would by no means think of having the bees do such work when they are gathering white honey.

# Biographical.

## THE LATE ADAM GRIMM.

ADAM Grimm was born in Germany, in the year 1824. His father kept a few hives of bees in which Adam took deep interest, and did not rest satisfied till he himself became the owner of a few colonies.

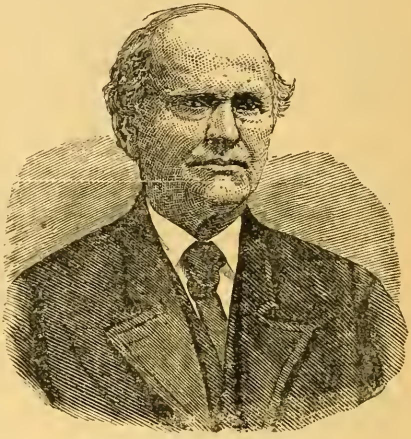
He emigrated to this country in 1849, settling at Jefferson, Wis., on a farm where he remained until the time of his death, which occurred April 10th, 1876. Soon after settling at Jefferson, he obtained a few colonies of bees and was so successful with them, that at a time when all other crops failed, his bees came to the rescue and helped him over the most critical time of his life.

In 1863 he had increased his apiary to 60 stocks of black bees in all sorts of box hives, and in 1864 he commenced to use frame hives and transferred all his bees into them. In the same year—1864—he bought his first Italians and as rapidly as possible Italianized his apiary, and then sold large numbers of Italian queens all over the country.

About 1869 or 1870 he imported, personally, 100 Italian queens, 60 of which were alive on their arrival at New York. Of this number he introduced 40 in his own apiaries. He increased his stock regardless of cost, every year, but had larger returns especially in late years both from the sale of honey and bees. Queen rearing he thought unprofitable.

He had an intense enthusiasm in the business and worked so hard in the apiary as probably to shorten his life. His success was the cause of many others engaging in the business.

He established a bank at Jefferson, of which he was cashier, (his bees having provided the capital) but during the honey harvest he left the bank to the care of employees and went from one apiary to the other, personally supervising all that was done.



*ADAM GRIMM.*

We shall not soon forget two or three pleasant visits which we made at his home with his interesting family. He told us that his wife remonstrated with him for working so hard, telling him that he now had a competence, and could give up his bees with the laborious care of so many, but he seemed to think the returns were large for the amount of labor, making the work still a pleasure, although no longer a necessity. He reached the number of 1,400 colonies, and on one of our visits when he had nearly 1000 colonies, he said, with a half comical expression, "What would I do if all should die in the winter?" And then the comical look giving way to one of German determination, he said, "I would buy some more, and with so many hives full of empty comb I would show you how soon I would fill them up again."

His daughters, Katie and Maggie, (since married) were his able and faithful assistants, and the son, George, since his father's death has assumed the principal care of the bees, for which he is well fitted by his previous training.—*From A. B. J.*

[By following the writings of our departed friend in the *A. B. J.*, and in the back volumes of GLEANINGS, one can get a better idea of his peculiar virtues, and of his strong love for bee culture, than perhaps from any other source. We at one time sent him the money for some Italian queens on Monday morning, and received them in fine order on Saturday of the same week, and this all the way from Wis. In all his dealings, we believe he was always thus prompt, besides being fair and liberal.]

# Heads of Grain,

## From Different Fields.

WILL our friends who are inclined to prefer the black bees, notice the following:

I am much interested and pleased to find my bees—all Italians—working freely on red clover; not having seen them doing so until a few days ago, though I watched them last season and this as soon as red clover came to bloom. I was beginning to think that Mr. Quinby must have been mistaken in saying that they did so "apparently *from choice* sometimes." But he is correct. In a field near my apiary containing both red and white about equally mixed, I found yesterday, in a half hour's search, Italians only on the red, and blacks only on the white. In fact the Italians seem to have abandoned the white clover entirely, though it is blooming freely, and black bees come over a half mile to within 20 feet of my hives to feed on it. I noticed that the Italians in visiting the red affect only that part of the head which has begun to wilt, leaving the fresh recent blooming untouched, though it contains as much honey as the other. I find as a reason that the tube of the corolla having wilted and collapsed, the honey rises in the tube and the bee is enabled to reach it. Perhaps also the tube having become soft and flaccid the bee crumples it down, making it shorter, in the effort to reach the honey. How does the quality of the honey in the red, compare with the white? E. W. GRISWOLD.
Centre Brook, Conn., June 23d, '76.

We have not been able to discover any appreciable difference between the honey from the white, and that from the red clover. Some declare the latter has more a taste of fall honey, but we are of the opinion that this is only because some fall honey is often mixed in with the red clover which is gathered in August and September. In localities where clover is not produced spontaneously, honey from fields of different kinds might perhaps be compared, but we feel pretty sure the difference will not be easily perceptible.

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It has been a good honey season here, my uncle has averaged 100 lbs. to the hive, and I have averaged 50 lbs. I had to sell my honey for 17 and 18 cts. Our main dependance is white and sweet clover; most of our honey was gathered from the sweet clover. All our honey is in comb. FRANK SALISBURY.
Geddes, Onondaga Co., N. Y., Nov. 7th, '76.

A chip from Sweet Home. The season for honey is ended and our report is as follows. Fore part of season good, swarming lively; we aimed to increase as little as possible, and frequently put two or three swarms in one hive. We lost 15 swarms or more. Commenced with 103, have now 175 and took 1920 lbs. box honey and 940 lbs. extracted honey. We have used the Harbison section box with glass on each end. A box composed of 8 sections holding from 15 to 19 lbs. We put guide combs in each section. When our boxes were taken off we had many partly filled. In the sections we found quite an advantage, for I crated all full sections and from those partly filled, my wife uncapped and slung 200 lbs. Those empty combs are saved for next spring and we got readily 15 cts. for slung honey instead of 20 cts. in combs. This season our bees did not do as usual for when we doubled swarms they would frequently kill all queens in which case they formerly built drone comb. But this season it made little difference as to the amount of drone or worker comb built, queen or no queen. We as well as some of our neighbor bee-keepers think the slates an invaluable adjunct, cut slates in pieces of 2x3 inches and hang on a nail.
D. D. PALMER, Eliza, Ills., Oct. 28th, '76.

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One-half the bees in this township will be dead if they are not fed, as there was no honey this fall. My bees have gathered nothing since July 10th.
G. DREW, Bunker Hill, Ills., Oct. 24th, '76.

And very late it is getting, to attend to it. But little time can now be left in which food can be sealed.

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I must bother you a little with my getting along with black bees. I put 14 stocks in the cellar last fall and took them all out alive in spring. I increased them to 37, have taken 1710 lbs. extracted honey, 150 lbs. comb, and they have a good supply for winter, although it has been a very poor season for honey here. Is not that pretty fair for a beginner with black bees and a wooden extractor? But you may get an order for a better extractor next spring, and I think I shall try Italianizing next summer. By the way, I should have had two or three hundred lbs. more of honey, if I had used comb fdn. Well, I must show both sides of the picture. I think I can make bee culture a success if I can find market for my honey, which I have failed to do as yet. I wish you would send me a buyer, or inform me of some good reliable party who would be likely to want it. I have now on hand two barrels of extracted fall honey, and one-half barrel of white clover and red raspberry. I shipped one barrel of basswood to John T. Norris, Springfield, Ohio, on the 19th of September; have written to him twice, yet I hear nothing from him nor the honey.

I expect to winter my bees in the same cellar as last winter. It is a log one covered with dirt. I take off cover and honey board, and put on a quilt made of two thicknesses of cotton cloth with batting quilted between. D. GARDNER, Carson City, Mich.

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I think I have found what causes foul brood, at least *one* cause; you have undoubtedly noticed that much of the brood of fertile workers dies on coming to *maturity*, more especially late in the season. This unnatural brood leaves a cocoon of course like other brood, and a great deal of it immediately after spinning cocoons becomes a rotten filthy mass. I have found this to be the case as late as Sept. and October. Such stocks are usually broken up and the combs put away where they freeze, so that all may go well for a while, but not with the bee-keeper who uses such combs when they have not been frozen. I was at friend Muth's this season early in Sept., and while there, Mr. Muth found that one of his stocks had foul brood, the first thing of the kind I ever saw. I went home *thinking;* and on my arrival I selected combs from two stocks infested with fertile workers, gave them to a stock having a very prolific young queen, and in six weeks I had a worse case of foul brood than friend Muth had. I should have stated that I did my best at feeding the stock to cause them to rear brood.
HIRAM ROOP, Carson City, Mich., Nov. 1. '76.

Weren't you mistaken as to its being genuine foul brood?

Have just returned from a two week's stay at Benton's Bay on the Miss. river. Cramer and I have been working with bees for McGaw and Jarvis. McGaw has been sick for some time and unable to attend to his bees. Friend Jarvis told me not to go and tell everybody how crooked their hives stand in the yard, facing all points of the compass, some tipped back and some forward, about the sand burrs in their clothes, beds, towels, fingers and feet: about the fleas and "skeeters" and the hot sand; the snakes, rats and mice, and—Novice I am not going to tell any one, would you? McGaw and Hollingsworth have 150 stands of bees. Jarvis 103. Dr. Cambell 45. Hammond 9, and Dickey 7. N. L. Jarvis will be 62 years old Oct. 24. Began in spring of '73 with five stocks, increased to 13. Gave me no report for '73 or 4. Spring of '75 began with 25 stocks, very little honey till July 5th. built up to 45 stocks. Profit from sale of bees and honey $301.50. Spring of '76 began with 38 stocks increased to 108, lost 14 by going to the woods. Has sold and has on hand over 3000 lbs. honey, mostly in small 6 lb. boxes. Has sold his honey at an average of 17 cents. It is a good location for bees but the bee-keeper must put up with a great many inconveniences. I enjoyed myself tip top while there: friends Jarvis, Dickey, Hammond, Leouck, etc. made the stay less lonesome by their neighborly visits.

Will M. Kellogg, Oneida, Ills. Aug. 24th, 1876.

My bees have done well this season, and are in fine condition for winter. What extracted honey I did take about three barrels. I have sold for 20 cts. per lb. I take my honey to town in a large tin can, and call on the families, and insist that they buy a little, even if it be only one lb, and the next time I call some will take 20 lbs. and some as much as 40 lbs. in course of the year. I am surprised to see some bee-keepers offer honey at 7. and 10c. when I feel sure they could get 20c for all they could spare, if they would take pains to build up a home market. John A. Buchanan.

Winterville, Ohio, Oct. 16th, 1876.

### HORNETS EATING LARVAE.

Near the top of the Missouri grade, about 4 miles N. E. of San Diego, a swarm of bees have taken possession of a small box culvert under the main wagon way. In passing them lately, I noticed an unusual commotion among the bees, and, upon stopping to see "what was the matter," I found they were fighting away some yellow jackets or common hornets. As I stood there watching the fight, I noticed a yellow jacket come tumbling out followed by a bee. The hornet seemed to be carrying something, and to see what it was, I put a stick on him, and found he had the larva of a bee about ¾ grown. This then explained the trouble—the yellow jackets were after the larvæ. Yellow jackets are very troublesome here. If you leave a piece of fresh meat exposed they will come by dozens, each gnawing off a piece the size of a pea and flying away. They will soon carry away several pounds.

G. F. Merriam, San Luis Rey, Cal.

I commenced the bee business with the common Langstroth hive, and have improved it until I now have one that I think will suit me. I have named it P. P. S. S. which being interpreted means, Perfection Perfected, and Simplicity Simplified. I have loaned my Gleanings, and cannot recollect the name of the man that winters his bees in a box with straw or leaves around the hive. I like the plan, but why not make a box long enough for 25 or 50 hives, 6 inches apart. I have one 32 feet long, top and both sides on hinges, so that I can get a current of air through it on a hot day, and have it perfectly shaded. I have never wintered bees in it. I have a good warm basement kitchen that I shall give up to the bees this winter. I have usually wintered in a cellar, but it is sometimes too damp. The basement is under the parlor, where the organ is played considerably, but I think they like music better than I do, when a quickstep is played around my ears. Geo. Perry, Peru, Ills. Oct. 17th, '76.

The plan of building the hives together, has many advantages, but it makes them more difficult to handle. The plan seems to be little in favor, as yet, but late developments may obviate the difficulties.

Four years ago last spring I bought one swarm of bees in box hive, for $10. At that time I did not know a honey bee when I saw it. I now have 34 swarms in good condition, and have sold altogether $265.00 worth of honey. True, this is nothing very great, but then I am satisfied. I owe my success largely to Gleanings; I use the Langstroth hive and J. P. Moore's rack (see P. 72, Vol. 4 No. 4 Gleanings). The fdn. has proved a complete success with me. W. H. Fletcher.

Sauk Rapids, Minn. Oct. 11th, 1876.

When bees are wintered in cellar or frost proof house, how wide have you found it best to leave the entrances of hives? When the entrance extends full length of end of the hive, would you leave entirely open for strong colonies and graduate for medium and weak ones?

G. G. Scott, Dubuque, Iowa, Oct. 18th, 1876.

We have generally closed the entrance up in October, until but two or three bees could pass at once, and thus we let it remain until it needs enlarging in May or June. Of late we have been much inclined to think, if the stocks are strong, the entrance need not be meddled with winter or summer. Our chaff hive has one ⅜ by 2 inches, and we propose trying to keep bees enough inside to keep out both frost and robbers.

I raised two queens from the larvæ I received from you in July. One was a nice queen producing yellow bees, the other was a small black queen whose worker progeny are hybrids. My bees have done well this summer; increased from 8 to 24. I am interested in "chaff" and the ventilation subject. F. C. White.

Euclid, Cuyahoga Co., Ohio.

The past season has been an unusually good one with the honey producers of this section, but I think a great many hives will be empty in the spring from over swarming and failure of *late* honey crop. I had five hives in the spring; I have increased to twelve and sold several queens, and have taken over five hundred pounds of choice comb, for which I find good sale at home at 25c per pound. I use 7 inches deep second story with division board through centre lengthwise, giving two rows of small frames, twelve in a row. Don't you think it *a little* unhandy to examine a hive with section boxes resting on the frames? For quilts I take seemless bags, turn them wrong side out, lay in a sheet of cotton batting, or what is better, a piece of rag carpet, quilt in wide rows on the machine, then cut into three pieces, and I have three quilts which fit the tops of my hives 12x18. For feeders I use shot bags which seem to answer admirably. I would say to correspondent in September No. of Gleanings that I *believe* I can introduce 100 queens without a loss, every effort being successful since the bit of experience given in Gleanings when I was more of a greenhorn than now. I have introduced a great many for myself and neighbors, and I have never lost a hive of bees from any cause whatever, and have never had a swarm leave me. Hoping for continued success of Gleanings, I am your resp'y W. O. Atkinson.

Vermont, Ill. Oct. 30th, 1876.

it is too much trouble to handle brood and boxes all from the top. I suggest you call it "the Immovable hive." The difficulty of taking out and putting in the packing is greatly reduced where buckwheat chaff is used, as it almost packs itself when turned in: 3 or 4 bushels will pack a hive underneath and on sides to top of brood chamber. Then make bottom of box separate by nailing to top piece of scantling for stand, and have the lids hook together at two opposite transverse corners and it will be very handy for taking out, packing and handling brood or boxes and manipulating generally. J. P. MOORE.

Binghampton, N. Y., Nov. 2d, '76.

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Bees have done admirably this fall, have taken an average of 80 lbs. of very fine extracted honey. I will stop making box honey as I can not find sale for it, and it is the very finest kind of clover honey.

PAUL VIALLON, Bayou Goula, La., Nov. 5th, '76.

That is right frend V., give them their choice, and don't stop to argue the matter.

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Have just returned from the Centennial and the "spirit moves" me to write a few lines for GLEANINGS. I came away with an exceedingly friendly feeling toward the Police force, for how else would one find the house apiary or the one or two hives, among the countless numbers of articles from every other department of industry. After enquiring of every policeman we could get our eye on, from the Main building to the centre of Agricultural hall, we at last found *one* bee hive (a friend says there were several in the British Department) and that from Canada. Capt. Hetherington's display of honey in sections is very nice, but looks lonely from so large a family of bee-keepers as we have. We wanted to see the *hive* from which those nice sections were taken, contrasted with the straw one shown. We went to the house apiary where we found several names of bee-keepers present, on a slip of paper tacked on the door: among them that of Cyula Linswick, whom we wished very much to see. The door of the house was open but the gentlemen inside did not seem inclined to receive visitors. We saw a hive at a little distance being put up, but not a bee flying anywhere. We sincerely hope that the next time the world's bee-keepers meet, the department may be better represented. M.

Medina, O., Nov. 6th, '76.

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I had 13 swarms July 24. Extracted 68 lbs on the 24th, of July, and in the next fifteen days they gathered 425 lbs. extracted honey. Three of the swarms were very small. I had one large swarm that gathered 23¾ lbs. in three days. The honey was gathered from Bee Balm which is plenty from July 20th, until Sept. 1st. I now have 19 swarms all in good condition for wintering. I took the first premium on the extractor that I bought of you last spring, and first premium for Italian bees and Simplicity hive. W. A. EDDY, Easton, Wis. Nov. 6th, 1876.

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I have but a moment to write, it is bees, bees, bees, honey, honey, honey, with me. It is work here the year round. From the 46 stands I started with a year ago last February, I have increased to 1400 stands, and made 30 thousand lbs. of honey. How is that for high? Have paid out $150.00 for Italian queens, and calculate to change my stock every year. Mr. Amateur, please tell us how much you have beat that. If I am not mistaken he was going to beat any man in the United States this season.

E. E. SHATTUCK, Los Angelos, Oct. 19th, 1876.

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When I stopped extracting in June I had [illegible] straight combs filled with capped brood. I put them into an empty hive, and set them upon another hive full of bees. In September I took off the upper hive, and found large holes in nearly every comb. Parts of several combs were entirely gone, and the adjacent ones bulged into the spaces so made. How do you account for this? I saw no worms. The hive was full of honey. What are the conditions that favor the souring of honey? Some honey extracted in June put into a new, waxed, headless firkin and covered with two thicknesses of paper and a flat stone, kept perfectly good in cellar notwithstanding the extreme hot weather. A sample of the same in a corked bottle in the pantry, soured. Some uncapped clover honey taken off in July, kept in the cellar, soured in the cells. Also some buckwheat taken off in September, soured in the cellar as it leaked out of the cells. Can honey commencing to sour be stopped, or restored when soured, by scalding or otherwise? What, if any, are the first indications that honey is souring? Some say never extract unsealed honey: others say, do not put the bees to the bees to the trouble of capping the honey. What is the truth in the matter? J. H. PARSONS.

Franklin, N. Y. Nov. 4th, 1876.

We can offer no explanation for the bees gnawing away the combs that had contained brood, unless by some means the moth had deposited eggs in the comb.

The souring of honey, has we confess oftentimes puzzled us: it will many times sour on the surface of a jar, because it has been hastily rinsed, and some water left adhering to the jar. As cool weather approaches in the fall, moisture frequently condenses on the windows and sometimes even on the walls; this soon evaporates ordinarily, but if it happens to condense on comb honey, the attraction is such that it unites with the honey, liquifying it to such an extent that it afterward sours. We know of no remedy except to keep comb honey in a room where the temperature is so uniform that the air does not deposit moisture. When honey has soured, or become damp or sticky, the very best thing to be done is to give it to the bees. When there are enough of them, or the weather is warm, they will remove it from the cells, and ripen it, in a very short time.

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I am a beginner in bee-keeping, and come to you for a little information. How can I tell, with certainty at this season of the year, whether a colony is queenless? I have looked through some colonies recently, and could find neither queen, eggs, larvæ, nor sealed brood. Does the queen cease laying at this season of the year, or is she supposed to continue laying through the winter? You say that the average life of a worker, during the summer season is about 30 days. What is the average life of a worker through the winter, and what causes the difference?

The honey cells being horizontal, how do the bees keep the honey from running out while filling them, and until the honey becomes "ripe" and is capped over?

If the queen lays all the eggs how is it that the same egg sometimes produces a queen, a drone or a worker?

Of course these questions will be called simple and silly by the knowing ones, but are fraught with mysterious obscurity to the uninitiated.

J. HAWKER, Baxter Springs, Kan., Nov. 9th, '76.

As a general rule you will find no brood in Nov. and Dec., and as it is quite a difficult matter to find a queen during these months, you really have little chance of being positive in the matter. We fear you, as well as others, friend H., are worrying needlessly. If the colony has plenty of bees, you have no good reason to doubt their having a queen, and our advice is to shut up the hive and not worry the bees. A worker will live four and perhaps six months, if wintered in that dormant condition, that is most successful; if you overhaul them every few days during the winter to see if they have queens, perhaps they would not live half so long—begging your pardon.

They don't keep the honey in, it stays in itself. Drop some honey into an empty comb with a spoon and you will find that capillary attraction holds it there very securely, unless you have very large drone cells.

We fear after you have hunted up all that is to be found in regard to your latter query in the books and journals, that it will be "mysterious obscurity" still. We believe the latest conclusion is, that the queen lays two kinds of eggs, drone and worker, or perhaps we might say, impregnated, and unimpregnated; the workers have a secret of their own in regard to queen rearing probably. All we can make out about it is that they give the workers and drones pollen and honey after they are three or four days in the larva state, while the queens are fed lavishly on the milky food until ready to be sealed up, besides giving them a much larger cell to grow and expand in.

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I think in last GLEANINGS you are wrong in the column of Our Homes. Agents are good. The evil is in the fact that people are foolish. They buy either what they do not want, or what is worthless, in nine cases out of ten. Since I was married, I think there have been at least two score of agents to see me. If they had something I had no occasion to buy, I said so firmly, and they left. If something I used, I examined it, and if I was sure that it was valuable I purchased. Now for the results. I have purchased three times. Once a washer, —the Little Pilgrim—not remitted, till my wife had actually tested it herself. And such terms, if a man has a good thing, will always be granted. My wife would not part with this washer for ten times its cost. Once a Carpet stretcher bought on same terms as above. We think in one case, where if we had not had it, it would have been necessary to give up covering a floor, as the carpet stretcher in doing so much, it more than paid for itself. We value it at far more than its cost. It pays for itself every house cleaning time. The third is a mere trifle, but my wife says very convenient. Now dear friends these were not only from agents, but from patent right agents, so I must take issue with you. I would not denounce agents nor patent right men; but would favor showing the people that they must, first, never buy a thing till they want it and can pay for it. Secondly, never buy a thing because the vendor says it is desirable. Either put it to the severest test, or else be sure that it so commends itself to common sense that you cannot regret a purchase. I teach my people differently from what you do yours, you see. Which of us is nearest right. If the people would only patronize a man, after following my directions, agents would cease to be a nuisance, and the evil thus eliminated, would be a positive good. You see I have now only to be consistent. A. J. COOK.

Lansing, Mich., Nov. 10th, 1876.

Thank you friend C., very likely I was a little too sweeping; but it seems to me that if I went to one extreme you have gone to the other. We would educate the people to take care of themselves by all means, but we cannot help thinking there are few possessed of that strong common sense needed to make them proof against accomplished——agents. Gamblers and confidence men are hunted out by the officers of the law, and yet it seems no one of good common sense should suffer by such men. Do not the police regulations of our large cities seem to take it for granted that humanity is not equal to the task of caring for itself but needs to be taken care of? Perhaps I shall have to admit being one of the unfortunates that fall a ready prey to those who make falsehood one of the fine arts.

Our board of education recently paid an agent $150.00 for an air pump (friend of education you see) that is worth $20.00. Now no such firm as he claims to represent is to be found, and the $130.00 is a total loss; yet the board is composed of some of our shrewdest business men. I was still more astonished to find he had succeeded in obtaining the same amount from the county seat of an adjoining county; yet his plans were so well laid, that when we looked into the details we were inclined to pity rather than blame his victims. Shall we let such fellows "roam at large" without a protest?

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The season for apiarian labor this year has about closed, and now comes the time to think out and mature our plans for the future. I say *plans* because I hardly think there are any of our active and most successful apiarians but what consider their apiaries more or less experimental ones. This is the fact as regards my own, and when it ceases to be otherwise, it seems to me the business will lose half its charms.

I am so situated that I can not give my whole attention to my bees at all times when it is absolutely necessary; this state of things has brought me face to face with the question of non-swarming hives. And now after trying different sizes all the way up to Hazen's, for such a hive, I venture this prediction: that the prevention will not be so much in the size and form of hive, as in *the time and way bees are handled at or about swarming time.*

Starting out with the proposition, that every bee-keeper should make, if possible, his own hives and boxes, in fact everything he needs, I propose the following: First, what kind of section box do your readers prefer? Let us have a full opinion all round, stating the size of section and how made. How placed together and held as a box, also what kind of guides, in short, the box in complete condition to place in the hive. And now let me say here, that I think this question of small frames worked as section boxes, in all its bearings, is one that we would do well to fully understand.

GLASS BOXES—How shall we make them? Let us have the size of box—size and kind of post and how made, etc. The place of market may have something to do with this question, if so, all right—state it.

What is the best shipping case or crate, and how made?

What is the best material for cleaning propolis from glass?

Will GLEANINGS be so kind as to give full particulars of shape, size, etc., for fancy pieces and how to place them?

These questions may seem to some simple, perhaps they are so, but to the average bee-keeper they are important. R. H. MELLEN.

Amboy, Ills., Nov. 11th, '76.

Guess you are pretty nearly right about the non-swarming. We would if possible make the section box take the place of all glass boxes; in our market, it seems to have done so without any urging.

At present, we know of no better shipping case or crate, than the one given on the cover of our Sept. No. Nothing can be much cheaper than benzine to remove propolis. We shall be glad to publish all that may be sent us that is new, in regard to the above subjects.

### SOME QUERIES FROM ENGLAND.

Will you be kind enough to give me the percentage chemical composition, of pollen and of the foods of worker and royal grubs?

We extract as follows from an article in Vol. II, *A. B. J.*, page 137.

"Bee-bread consists of the following substances:

Albumen, Pectic acid, Grapesugar, Butyric acid, Myricine, Palmatin acid, Stearine acid, Oleic acid, Glyceryl, Anthesmin, Hyppuric acid, Cerinthin, Pollenin, Cellulose, Eritholin.

Of the enumerated fifteen substances only three—albumen, hyppuric acid, and pollenin—are nitrogenous. The rest consist of carbon, hydrogen, and oxygen.

The most important nutritious substances are, unquestionably, albumen, (7 per cent.,) pectin, grapesugar, and the fats (5 per cent.). Possibly, also, the hyppuric acid. The other substances play a subordinate part as nutriment; and some, such as cellulose, are of no account whatever, being discharged undigested by the bees.

The Anthesmin and Eritholin (perhaps the Cerinthin likewise) are exhalations from the body of the bee, and seem to penetrate the entire mass of the combs and the whole interior of the hive; the Anthesmin communicating its peculiar odor to the wax, and the Eritholin imparting thereto its yellow color, frequently coloring also the frames and the internal surface of the hive. Both substances are readily procured from yellow wax."

The nectar of cacti and some other plants is stated to contain cane sugar; can you give me the name of any common bee plants whose nectaries yield this kind of sugar?

We know of no plants in our locality, yielding cane sugar.

Do American farmers prefer white to red clover? If so, why?

The only reason why white clover is preferred is because it grows spontaneously, while the red has to be secured by frequent seeding.

Is it usual for American professional men, who keep bees, to go around the country in carts, retailing their honey?

As a general rule, we believe our professional men do not personally retail their own honey, yet should they find they could sell enough more than any hired help, to pay them for taking their own time, and this is sometimes the case, we assure you they would not hesitate an instant; for the secret of the success of our American industries, is that no one scruples to take up any form of honest labor, at which he discovers he can do well. We remember asking a college professor a short time ago, why he himself took entire care of his horse and cow. He replied that he preferred to do so, because he felt sure it did him good; and his care, without question, did the horse and cow good, for the animals were not only sleek and tidy, but seemed to have almost as much trust and confidence in him, as did his pupils in the lecture room. I have wondered since, whether the kind and christian spirit which seemed to pervade this man's whole life, were not drawn somewhat from his daily visits with these dumb friends.

Those who do all their labor in their offices or counting rooms, I fear are trespassing against God's laws; and many of our finest and most successful market gardeners, growers of small fruits, and even apiarists, are men who have been educated for the professions.

Have you Furze or Heath in your neighborhood?

We have no Furze, or Heath, that we know of.

I bought a jar of San Diego comb honey in Sept.; it was solid, but after warming it was found to consist of extracted with two or three thin slices of sealed comb honey. Contents about 1 lb., price 2s. 6d. What is its wholesale and retail price in America?

San Diego honey, put up in glass jars, should retail at about 25c. per lb., and should not cost at wholesale, more than 25c for small lots, or 20c. for large. This is for jars containing both comb and extracted. For wholesale prices of extracted only, see Muth's quotations in this No.

I had great difficulty in finding among the grocers of this city, (population 80,000) a purchaser for a small quantity of comb honey in sectional supers, of finest quality; at last I succeeded and mine was sold at 1s. for comb honey and 8d. for extracted. The grocer retailed them at 1s. and 1s. 6d. per lb. Grocers give here from 4 to 8d. for extracted honey. A dark sample of extracted honey is exhibited in a chemist's window marked 10d.

In your attempts at marketing your honey, you did not get it into the hands of the proper persons, we fear. Experience seems to indicate that such a trade must be built up. We now retail on an average 1000 lbs. annually, and our subscribers write, many of them, that they do still better, and that too, with little effort.

What is the greatest and least weight of honey you have a stock consume during the cold weather?

A nucleus might winter on 5 lbs. while an extra strong stock wintered in the open air, might——we never had one to consume as much as 40 lbs., but have been told they sometimes do.

What do you say to 5000 cubic inches for interior of breeding department?

We have decided in favor of a brood chamber containing just one half the amount you mention; about 2,500 only. During the surplus season, we would want on an average 3,000 more.

Think you will find vegetable wax or stearine better than paraffine or Burgundy pitch. J. H. E[illegible].

Norwich, England, Oct. 26th, 1876.

We have experimented with all the vegetable waxes we could hear of. The nearest to pure wax, is ceresin; some specimens of the white, seem to answer full as well as wax, but the yellow, stretches very much like paraffine, and the expense is nearly as great. The inducement will hereafter be a considerable one, for us to think of any substitute for the wax itself.

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This has been the worst season with me for 10 years. Have at present over 100 colonies. Have sold a good quantity of bees this fall for $10.00 per colony, and some for $12.00. Have about 100 metal cornered frames in use and like them very well.

A. T. Williams, St. Charles, Mo., Nov. 11, '76.

The yellow comb fdn. you sent me last spring, worked satisfactorily except one very pale looking piece of 6x6 in., which bulged during the summer heat; the yellow fdn. had the cells extended in the best manner and also brood hatched in some of those new combs. CONRAD DIPPLE.

Watertown, Wis. Nov. 3d. 1876.

The above refers to the 5 cells to the inch, fdn., and as no adverse reports have been received, we shall have to call it a success, although it is packing the young bees a little closer than they do it naturally. It seems there will be quite a saving in getting the brood so closely packed together, and we should be very glad of more reports before another season. While a larger cell will probably be better economy for the bulk of our comb honey, yet the scraps from this brood fdn., may be all used up to very good advantage for starters, as has been very fully demonstrated. As friend Dippel received the fdn. mentioned in March, we can not now recollect in regard to the light sheet mentioned, but presume it was some of our first paraffine experiments.

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One year ago I had 95 stocks of bees, and yet at the beginning of this season I had only 63 left. I divided my time between the shop and the apiary, and at the close of the season had 104 stocks. And then came along some miserable sneak thieves, and traveled toward the lower regions, with four heavy stocks, in splendid hives, combs mostly new, and beautifully straight! And yet we hear of Universal Salvation! If that be true, they will, when they get to the Celestial Paradise, be apt to steal a diadem, unless the seraphim and cherubim keep constant guard! The yield of box honey is 2500 lbs gross.

Here is what the local press says!

"—D. P. Lane, the honey king of this section, will market a ton of honey this season, as the product of his apiary. He sells his honey in the comb, tastily put up in small packages, and it is good enough to eat."

D. P. LANE, Koshkonong, Wis. Nov. 8th, 1876.

P. S. In consequence of this action (stealing) of human hyenas, superadded to the natural risks and losses of Apiculture, I feel blue enough to be a candidate for Blasted Hopes. D. P. L.

Why friend L. *you* have little cause to feel blue, even if you did lose some of your hard earnings in such an aggravating way. There is one sure and certain remedy for thieving bees and honey, and that is the house apiary. If chaff packing is going to be the thing, it will not be so much more expensive either.

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It was thoroughly understood that the whole comb foundation business was an experiment, and in fact is still, notwithstanding our seeming success the past season. We first bought the paraffine foundations for just what they were, and at a paraffine price; and when it proved worthless it was *our loss*, as, had they proved a success it would have been *our success*. Your putting your price at 50 per cent less than we could buy elsewhere showed that you were not simply trying to make money. As a stock-holder in GLEANINGS I protest against your throwing the dollars we send you away in this way, and I do so on purely selfish grounds, as I want you to use it in your experiments in bee culture and print them in GLEANINGS that I may profit by them. Upon the same grounds I would like to be one of fifty of your subscribers to stand this loss, that GLEANINGS may not suffer by it. E. B. BILLINGS.

Elmira, N. Y.

Well really friend B., with such champions as yourself, and those who have sent us similar letters, it would seem we might learn discretion. You can hardly realize how much we appreciate the kind spirit in which you offer to stand the loss that resulted from our own carelessness; but since we "left the door unlocked" ourselves, we cannot think of letting our friends suffer in our place. If you entrust us with your dollars, we will promise to hold them faithfully, and we prefer to have every one who sends a subscription feel that they are a veritable stockholder in GLEANINGS to that amount. If you wish any new plan tested, any experiment made, or even to see what the "bee ranches" of our successful "stock-holders" look like, express yourself to that effect, and we will do the best we can. Send on as many dollars as you can, but we shall insist that a copy of GLEANINGS be received as an equivalent, for each one of them.

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My report for 1876 does not compare well with my others, but with your permission I will tell a swarming story. My honey sales for this season amount to $1088,05 clear from expense. Sales of bees $433.05, total $1521,10. I shall try to winter 190 good swarms. I used some of Long's comb fdn. which answers every purpose for comb surplus, but my queens will not use them to lay in, neither will young natural swarms stay in a hive containing them; though small cards of brood will start comb building in the sections, when it can be removed to the next hive and so on. Please remember that this card of unsealed brood will bring the comb builders up into the boxes quicker than any other method in the world. Now don't all say at once that this will induce the queen to lay in your boxes, for it will do no such thing if the brood is removed at the right time.

In August 1875, I sold one swarm of bees to a friend living two miles from me. They were pure Italians and had for their home one of those movable comb hives with frames 10 inches square, and 12 frames to the hive. He now has ten swarms, 9 of which have 50 lbs. of honey to the hive, one weak swarm, and one flew away to the woods; all from this one. He had no dry combs to work, and no feeding done. The one that flew away left early in haying time.

HIRAM ROOP, Carson City, Mich., Oct. 29, '76.

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Your notes on page 272 bring to mind what I observed and supposed to be drones after a virgin queen. I was harvesting on a hill and heard what I at first supposed to be a swarm of bees, but looking in the direction of the sound saw what appeared to be drones flying in a nucleus about as large as a hat brim. They flew very swiftly and in all directions, sometimes within twenty feet of the ground, then very much higher, always keeping in a compact body and looking like bees settling in swarming time. I followed them for 200 yards and lost sight of them. One of my neighbors told me that a lot of drones came to the ground in a field where he was working corn, and remained for a short time. I have seen drones chasing worker bees, on a cool day when they were passing over a hill to work. When drones fly I think they spread over the whole country as the sound they make in a summer afternoon would indicate. I have seen ants coming out of their holes, small winged, and large ones about three o'clock on a sunny afternoon in September, filling the air in all directions, but did not observe any of them come to the ground. JOHN BAIRD.

Elm Grove, W. Va. Nov. 6th, 1876.

## AWAY FROM "OUR HOME."

ON this first day of November, we, my wife and I, find ourselves quite unexpectedly, away from our home, and our little ones. Fifteen years ago, hand in hand, we started on a similar journey; the years have passed, and changes have come, and the hand that grasped mine at the depot as I heard "Good bye papa," is almost as large and strong as my own.

*In the night.*—Weather warm and passengers happy, with car windows wide open. Officious porter builds fire in stove notwithstanding protests of all. As it gave ladies nearest stove a headache, I volunteered to take "hot place." Plead with porter, but he only put in more wood. Appealed to conductor who tried to "choke" stove, but could find no stove hearth: said he guessed it would burn down after awhile. Asked fashionable gent and lady to "sit up" and give us a seat away from stove; would not, so I tried to think stove would prevent night air from giving people colds, and was happy in spite of heat.

*7o'clock.*—Waiting two hours for train at country depot. Found a half dozen Sabbath school workers, and extemporized "teachers meeting," but none of us had Bible or lesson paper, so we drew on our memories for what we could collect in regard to Paul's conversion. Made out nearly the whole lesson in that way.

8 *A. M.*—Lost my stamped envelopes, got off at Hornelsville, N. Y. to get more, or some stamps, and before I could ask for the P. O. was very kindly informed where I could get nice lager, or any thing to drink. As office was nearly half a mile from train, looked for some store where I might find stamps. No stamps, but every thing to drink. All the way to P. O. I found glaring signs of beer and whiskey, and the faces of all I saw on the street, proclaimed the same things plainer than any device in the way of gilt letters could do. Liquor dealers standing before their fine brick stores, talked of their superior "drinks" and I really expected to find the P. O. too, furnished with the glittering display of bottles. It wasn't, but a red faced official gave me a pewter dime in change when I at length got the coveted stamps. If all the streets in Hornellsville, are like the two long ones I traversed, and all the towns in York State are like this, what is to become of our people? Are there those who like a good glass of "lager?" So do I too, and the old appetite was pleading for it all the length of that walk, but may God help me to fight against this, as well as all other right hand temptations, as long as life shall last if need be.

11 *A. M.*—Somebody has a very pretty apiary of American hives across the river a few miles above Rathburnsville. Who are you friend? With such beautiful river, hills and scenery, dear York State, why cannot your people be happy without marring their intellects by "something to drink?"

11½ *A. M.*—Another pretty apiary of American hives near Stonington, but we fear they stand too close together.

1 *P. M.*—Somebody has a house apiary near Elmira. Who?

3 *P. M.*—When we first struck acquaintance with the Susquehanna river (a man said it was) this morning, one could almost skip across it. But now it has grown so much that it resembles a good natured lake, that has followed us just for the purpose of tantalizing us because we can't get into it and wash off the coal dust.

3½ *P. M.*—40 min. for refreshments. A neat looking new hotel induced us to ask if a place could be given the ladies to wash. We were motioned to a place back of the clerk's desk, filled with men, who besides performing their ablutions, were being supplied with the inev itable "drink" as fast as the clerks and all hands could pour it out, and no one could spare a minute to listen to anything else. The ladies had their tea without washing, and I preferred to run down the bank and wash in the river without soap rather than try to undertake it in that den behind the bar. Places to get drinks are in plenty and seem to be doing a thriving business at every station, and that seems to be the only important item. Is it because our traveling people demand them and pay for them and nothing else, that such is the case right in the very midst of all this glorious scenery? The individual behind us has been drinking himself profane, obscene, foolish and silly, and that in broad daylight, right before the conductor, and with ladies on every side of him? Can not some *temperate* man start an eating house? And are there not enough of us to support such an one. May God bless our native land and help the faithful to reclaim it from this threatening evil.

6½ *P. M.*—Not only does Pa present beautiful mountain scenery, but we actually have burning mountains. We 'play" they are volcanoes; they are the low growth of forest trees on fire, and as they burn out a circle, we have a ring of conflagration visible clear around as we view it across an intervening valley. These hills remind one of a boy who has dropped an armful of biscuit, and once in a while a whole loaf of bread; the latter might have split square in two. From the way in which the hills are piled about, one might imagine he didn't stop to pick anything up. The scenery itself is worth the trip. One thinks "Rock of Ages."

*Evening.*—Our friend with the bottle is wishing he was president of the U. S. His poor brain formed the desire, that he might take the duty off whiskey. His wife says she wishes *she* was, that she might annihilate whiskey. He boasts loudly of being a democrat.

*Nov. 3d.* 8. *A. M.*—I love Philadelphia already. Am away down on the wharf among the shipping, and the ocean breeze, the multitude of vessels, and above all the pleasant words and smiling faces, make one feel it is rightly named. Only found one whiskey shop in five minutes brisk walk, on a busy street. Every body seems busy and happy; even the colored people unloading salt. When I need another business sign, it shall assuredly be like those here. Paint your board, which may be of some nice shape, as black as it can be, and then make the letters of the purest white. Such a sign can be seen for a long distance, and one can find what he wants at a glance.

### CENTENNIAL.

10 *A. M.*—I recall all I have said in regard

to the Centennial. No words can do it any kind of justice. I never, *never* before realized that the world was so large.

*Noon.*—A very good wholesome dinner for 25c. at the Dairy. For the first time we found honey on the bill of fare, and price only 10c. No smell or trace of beer about the premises, and dinner in an open veranda. The thing of all others that pleases me, is that all the nations of the earth are so well represented; and the way in which they have sent the products of their own lands, the implements they use in their industries, drawings of the manner in which they use those implements, with explanations in their own language, translated to ours, is really affecting, and when I saw their books, their methods of education etc., and realized that these were our own brothers and sisters, in the sight of our Heavenly Father, I could not keep back the tears; and at sight of the department from Liberia, showing with what pains and care those poor colored people had collected and sent us the best they had, and then implored us to help them in their efforts to become "clothed and in their right mind," I had to have quite a "womans cry" before I could go farther. May God abundantly bless these people, and all the nations of the earth, in this scheme of sharing with each other, all that we have done in the way of progress and civilaiztion.

The contrast between the agricultural machinery of other nations, and that of ours, especially seeing them exhibited side by side, gives one a feeling that is really overpowering. Japan has actually purchased one entire department of agricultural machinery from us.

Residents of these various parts of our earth, clothed and speaking though imperfectly, our own language, meet one all through, and the thought that all these have intellects that respond rapidly to the influences of a Christain religion, and mental culture, make one burn to speed the work that the missionaries are doing.

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How eagerly we American people, grown up, as well as children, are captivated by seeing *how work is done.* Selling toy tin pails might be a slow business, but when a half dozen girls and a steam engine, made them by the thousand right before the eyes of the vast crowd, every body must have one or more, and such a crowd was constantly watching the mighty presses, and the nimble fingers, to see *how it was done*, that one had to push and crowd, to even get a peep. It was the same at the glass factory, and we should say the prevailing American trait just now, is to see how every thing is made, even if it be the grinding of apples into cider, and after seeing, to be sure all must taste. May our Great Maker above help us to keep our appetites and passions as our servants and not our masters. Dozens of little boys were busy making rocking chairs, baskets, centre tables, etc., with their different scroll saws, and the way the multitude took them as soon as finished, at a dime or a quarter each, made one think they might get rich. There is literally acres of automatic machinery busily at work, and apparently to the satisfaction and happiness of all parties for I cannot remember during the whole day to have heard an unkind or unpleasant word. The way even children (girls as well as boys) are taught to use these automatic machines is astonishing; and we can hardly say whether it is that the children are taught to manage the machine, or that the machine is so made as to be within the scope of the powers of the child. These little ones receive money, and make change correctly, for aught we know as well as anybody; and he who simplifies business and the cares of life, so that a child may take charge of them, truly is a benefactor.

Very few humbugs seem to have got into such a wilderness of industries, and very little was said of "rights for sale." Philadelphia! we owe you an everlasting debt of gratitude, and if you have used money "like smoke" we really believe it has been used to good advantage.

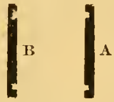
We are pained indeed to notice how very meagerly the bee and honey industry of our land has been represented, for the few hives that are to be found are scattered widely apart, and none represent any where nearly the hives that are actually in use in our country; they are all much too complex, and expensive. Our comb fdn. was pretty fairly represented after all, and our thanks are due friend Isham, for sending it. A very considerable building could be filled with the products and implements of the apiary if gathered up, and we hope soon to see it done.

*Sabbath Eve.*—Is not the secret of so many kind pleasant people in Philadelphia, that the city is so well supplied with churches and Sabbath schools? We visited Wanamaker's Bethel school, and were rejoiced to find it filled with people long before the time of opening; and when time to begin, the crowd was so great, that a large church was filled with those who could not get in. These were formed into an immense Bible class, and Mr. W. left his school long enough to make glad the hearts of Sabbath school teachers that represented almost every state in the Union.

Mr. W. started this Bethel school about 15 years ago, in the worst part of the city; now it is held in one of the finest and largest stone buildings, resembling a large church, that is to be found in the city, and the interest is so great that thousands are unable to get in. Even should we not be able to achieve like results, may we not remember the promise "He that is faithful in few things, shall be made ruler over many."

Visitors and strangers receive the most cordial welcome to all places of worship, and if the example could extend to even the smaller towns, the effect must be beneficial. A plain clean board card such as we have mentioned, tells the stranger where the services are held, and extends to him a welcome, that makes him feel the churches his home, as they certainly should be. God bless Philadelphia.

Capt. Hetherington's display of honey is quite in keeping with the way other departments are represented, and we owe him a vote of thanks for having done his work so nicely. It is a large square pile of section boxes very near in size to our Universal. Each one is encased in glass, and for retailing, the whole is slipped into a neat paper box or case, tied at the top with blue ribbons. This certainly makes a very neat package, but the expense is such, it would have to be sold at a good price. The section, which is very light and neat is made thus: A and B are the uprights about ¼ of an inch thick, and 2⅛ wide. The top bar which is about as thick as a common light of glass, slips in the saw cuts, shown, and is probably held with glue; it is about 1½ wide. Now if we put a sheet of glass on each side next the comb after filling, we should have four spaces of ¼ inch each left open, and these the Capt. closes by four narrow slips of glass the length of top and bottom bar. A and B are rabbeted in each edge to let the light of glass drop in, close to the honey. Our objectious to this box, would be so many pieces of glass, six to each box. The large glasses seem to be held in place with glue. The wood work is very light, and the glass all seemed to be made very thin for the purpose. This package is perhaps the neatest in the market, but others, such as Doolittle's, are much less expense.



On Capt. Hetherington's table too, we noticed a box of what we took to be our fdn. It is unfortunate that no printed explanation was left with it, for visitors evidently were much puzzled to know what it was, and for what used.

—Four very pleasant days have been passed viewing the products of the labor of our brothers and sisters, all over this vast globe of ours; and the feelings awakened have been almost uniformly those of pleasure, through the many different departments and buildings. The fine art gallery was visited last, and even at the risk of being called old fashioned, of lacking appreciation, and of imagining evil where none exists, I feel like protesting. In all the other departments I met cleanliness and order; pleasant and wholesome looking gentlemen and gentlewomen, and I saw no trace of either intemperance or other kindred vices on the whole grounds until I went into the fine art galleries. With the statuary of the little ones just as they get out of their cribs in the morning, I was delighted, as almost any one would be, but when I began to study full grown nudity, and at the same time the faces of the swarms of humanity that were crowding and jostling each other in a way they did no where else on the grounds, I could but pray that we might have humanity, even in statuary, depicted "clothed and in their right minds." This work—carved with a skill that is wonderful to be sure—is much of it from nations that are not celebrated for their purity of morals, and when one seeks for the purpose of the work, notes the way in which the figures are poised, the expression of the whole piece, it does not seem they are hardly fitting for the gaze of a people who are active in the work taught in our Sabbath schools and churches.

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In our own home again; and with a feeling that after all, it is the best and happiest place for, at least us two, of any other on the wide earth. God bless our homes, and keep them sacred and pure.

## DEPARTMENT FOR BOX HIVE BEE-KEEPERS.

I have kept bees for 10 years, but have never made it pay. Have now 25 hives, all except 3 without frames. Of course they swarm naturally; never had a swarm go to the woods. I want to get Italian bees, mine are all black; I never saw an Italian. Had I not better sell my entire stock of black bees? Will take a fair price for them. Don't put me in column of "Blasted Hopes" for I never expected much.

A. F. Conaway, Mannington, W. Va. Nov. 14th, '76

[Your report, it seems to us, comes under this department. We know it is not very flattering but it is all we have received, and unless we use such, we fear box hives and common bees will die a natural death. Do not sell your bees, but transfer and Italianize, as we have so often advised.]

## Notes and Queries.

I HAVE 18 colonies in Am. hives and have Italianized 4 of them. Which is the best way for me to Italianize the rest?

[So many circumstances are to be considered, shall have to tell you to read up the subject in back volumes. Mr. Doolittle, who is just at hand, says "buy dollar queens." If you have more time than money, perhaps you can make nuclei and raise the queens for the remaining 14.]

Are the nails used to keep the frames from swinging together in Am. hives, in the way for using the extractor?

[The frames can be used in the *extractor* very well without removing the nails, but they have been voted too much of a nuisance to be tolerated in other respects.]

Have I made a good selection in the kind of hives I use? I have never had any other hive in use. Have been advised by a seemingly intelligent bee-keeper to make kindling wood of said hives and use Langstroth.

J. J. Silzie, Fertigs, Pa.

[Your intelligent bee-keeper was probably not far out of the way. Nearly all of the hives now in use, American with the rest, use plain square frames, hanging in plain square boxes.]

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To say I am delighted with the microscope is to speak very moderately indeed. How can you send so elegant an instrument for only eight names? Yes I have used some of Perrine's fdn. and like it, only it is a little too thin; bees break it down in very warm weather. Bought it before you started your new lot. Make your fdn. five cells to the inch (like Perrine's,) and as heavy as you now make and it is *just the thing*. Don't like the large so well, except for outside combs to extract from. As it seems to be the fashion to send you views of bee yards (Oh! I forgot, apiaries), I will send you a stereoscopic veiw of our bee yard in a few days. You can see for yourself we are crowded for room. Will. M. Kellogg.

Oneida, Ill. Nov. 17th, 1876.

Glad to take a peep into your yard friend K., and we are also pleased to see that none of you seem afraid of the bees. There is not a veil or even rubber glove to be seen any where, and yet there are bees, for we see them clustered over the entrances. The lady who stands by the extractor—right in the open air—seems also oblivious of the fact that bees are dangerous. The hives are neatly painted, and the view is so very inviting, one can hardly avoid wanting to mix in and have a "bee talk."

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Have bees the power (after filling themselves with honey) of controling the production of wax? If wax is not produced, what becomes of the material provided? M.

Medina, Ohio, Nov. [illegible]th, 1876.

[Who will answer? We would suggest, that if they do not want to secrete wax, they simply hold the honey until needed for food as when they are clustering out on the front of the hive before swarming, for instance.]

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Will common brown sugar do to manufacture into candy to feed bees? P. W. KELLER, Yorkana, Pa.

[Our experiments indicate a light colored brown sugar perfectly safe for wintering, but we should fear to give them any very cheap sugar. Will some one who has had experience, please answer. We have used for all of our candy, only straight A coffee sugar.]

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Is there any easy way in which tallow can be detected in bees wax? I have bought some which is very much softer than our wax. I bought it to have comb fdn. made from it, and do not want to send it if adulterated. Can it be separated? GEO. M. DALE.

Border Plains, Iowa, Nov. 11th, 1876.

[We know of no better way, than to bite off a piece and chew it. If it has even a little tallow, it will make "gum," and can be chewed indefinitely; the pure wax, crumbles almost immediatly, separates in small bits, and will not make gum at all. We are inclined to think some wax is much softer than other lots, even if both are pure, and this may make some difference in the working of the fdn. However, we have as yet found *none* to work badly in our apiary. The following may give some light:]—

You are probably aware that wax freshly melted is quite soft and pliable, while that which has not been melted for six to twelve months, is quite hard and brittle; now the query to me is, will comb foundation made this year be as acceptable to bees next season as that newly made? provided of course it is kept clean. We too, observed that our queens would seldom use them for brood, but have not been able to determine whether the size of cell, or the substance was at fault. J. H. NELLIS.

Canajoharie, N. Y. Nov. 15th, 1876.

[When wax is exposed to the air in thin sheets it seems to lose some element that makes it soft, as in the case of bleaching; but the old, or white wax, can be worked just as well as the new, by having the room a little warmer. During the warmest weather, we were obliged to dip the sheets of yellow in ice water, before we could roll them safely, while the white worked nicely at the temperature of the air; we suspect that some portion of the wax passes off into the air, when exposed to it for some time in thin sheets.]

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Which is the best seed to sow for bee pasturage alone, and which for fodder or hay as well as bee pasturage, of the following: melilot, lucerne, borage, mignonette, Rocky mountain bee plant and rape? Please answer through GLEANINGS. I have alsike clover. Some say it is very fine for bee pasturage, others that it is not? A. FAHNESTOCK.

Toledo, Ohio, Nov. 15th, 1876.

[Of the plants you mentioned, only rape and lucerne are of value aside from the honey they produce, and we have never had a direct report showing that it would pay to raise any one of them for this purpose alone. Lucerne we believe is not well adapted to our latitude, and therefore we should consider rape, the only one safe to try on a large scale. Rape seed will always bring enough to pay all expense of cultivation, and the honey, for both quality and quantity, is equal to any of the plants raised for honey alone, so far as we can learn. Alsike is we believe rather better than either white or red clover, but as it comes in bloom at nearly the same time, is not as desirable as rape or buckwheat coming later in the season.]

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Last Thursday I called to see Mr. L. W. Floyd, of Mt. Healthy, O., who has the bee fever very badly. On the first of Oct., he found a swarm of bees hanging on a fence. He kept them in a candle box for 3 days, and then traded five turkeys for a frame hive and empty comb; a neighbor helped him put the bees in the frame hive and he fed them 25 lbs. sugar. Last Thursday he traded a load of hay and two turkeys for two large frames of honey, containing about 20 lbs. He says if they die it shall not be for want of something to eat. He will winter them after my plan. Putting the hive in a large box, arching the entrance over and covering with saw dust, and covering with carpet instead of honey board over the frames. Please send him a sample copy of your GLEANINGS and oblige. W. STUMP.

Cincinnati, O., Nov. 20th, '76.

[Very likely the fever will rage considerably in friend Hill's vicinity, since his 3 ton crop of honey. Give the patients gentle treatment, and keep them well protected from patent bee-hive men, and they will generally come out all right.]

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In regard to the honey Mr. Heddon sold, it was in Ionia I saw it. I hardly know how Saranac got mixed up with that article. L. KELLEY.

Ionia, Mich., Oct. 23d, 1876.

[If we recollect, friend K. omitted to give his town, and we, finding Saranac post marked on the envelope, used it.]

## THE PRIZE ESSAY.

The Centennial committee of the Northeastern Bee-keeper's Association appointed as a committee of judges on the essays, J. P. Moore of New York, H. Alley, Esq. of Mass. and J. S. Hill, Esq. of Ohio. The committee convened and performed their duties on Thursday evening, October 26th. Four essays were presented, all very useful and instructive papers. The gentlemen who sent the essays are Rev. E. L. Briggs, of Iowa, Dr. W. B. Rush, of La., Wm. H. S. Grout, of New York, and Prof. A. J. Cook, of Mich.

After due consideration, the commitee awarded the prize to Prof. A. J. Cook of Mich. This seemed a worthy decision. We can only regret that low finances restrained our giving a prize to each worthy competitor. We can but hope that the unsuccessful may appreciate their reward in the good done the mass of Apiarians who have failed heretofore, in wintering their bees. J. H. NELLIS.

Secy. of the North Eastern Bee Keepers Association.

Canajoharie, N. Y. Nov. 22nd, 1876.

## Cincinnati Honey Market.

MUTH'S SELLING PRICE.

White clover honey in full packages, (a bbl. or ½ bbl.) per lb. 12½@15c. The same in tin cans of 10 or 25 lbs. net, per lb. 1[illegible]. The same in 1 lb. glass jars, 1 doz. jars in a case, per case $3.00. 12 cases of same, $34.00. The same in 2 lb. glass jars, 1 doz. jars in a case, per case $[illegible].00. 12 cases of same, $64.00. Linn or Basswood honey in original packages, per lb. 12½@14c. Poplar honey in original packages, per lb. 12½@14c. Buckwheat honey in original packages, per lb. 12½@14c. These latter three varieties in tin buckets (of 10 or 25 lbs. net), per lb. 15@1[illegible]c. Tin buckets 25 cts. apiece extra. Barrels $1.00 extra. Comb honey per lb. 15@22c.

I have no wagon running but parties come to my store or send me their orders. I have never before sold as much honey by the barrel. It is encouraging, indeed, to see so many different manufacturers use honey now where they used sugar before. Friend Hedden will have to turn again to the extractor some of these days.

CHAS. F. MUTH, Cincinnati, O., Oct. 28th, '76.

## J. S. HILL'S METHOD OF WINTERING ON SUMMER STANDS.

### HAS HAD NO LOSSES IN THE PAST SEVEN YEARS.

I USE the L. hive with portico, and moulding or strip around near the top of the lower story for the upper story to set upon; I have legs on the hives with the upper ends beveled, so that a one-half inch board will fit under the moulding. By this arrangement the hive is doubled, with one-half inch lumber to break off cold winds from the main hive. I have a loose cover for the upper story.

I use but 8 frames in the brood apartment in winter, and in place of the two outside combs, I use division boards made of three-eights inch lumber. These division boards are made double thickness, with an air space left by using strips at each end, of such thickness as to have each the thickness of a comb. This makes three dead air spaces between the bees and the outer air.

Have a frame made for each upper story of ½ by ¾ lumber to fit inside it, with Burlap or any other coarse cloth tacked on it with thin strips to hold the packing; then lay sticks across the tops of the frames and put on a woolen blanket, and fill the upper story 8 inches deep with chaff or cut straw. By this arrangement you will perceive when I set the top story off, the packing goes with it, so I can examine a hive at any time without any extra trouble with the packing. I leave the packing on in the spring until the bees get strong enough to store surplus, and then remove it, and put the boxes on the upper story. For winter ventilation—as soon as warm weather is over, or as soon as the bees quit clustering out, I stop up the bottom of the hive, tight, with a strip of wood cut for that purpose, so that the bees can seal it up with propolis that there may be no cold current of air under the cluster. I have a ¾ hole bored in the center of the hive under the portico, to which hole I have a latch made of ½ inch lumber put on with a screw, so that it covers the hole, or by turning it up leaves the hole open or partly so, as I wish, according to the weather. In the lower side of the latch cut a box or cavity, ¼ by ½ inch, beveled up ½ inch, so that when it is down over the hole it excludes all excessive light from the sun shining on the snow, and the bees have sure ventilation that cannot get stopped by sleet on the outside nor from dead bees or cappings in the inside, and the bees have plenty of room to get out at any time.

It is important that there be some ventilation above the packing; this may be secured by boring holes in opposite sides or by driving thick headed tacks in top of upper story so as to leave a crack under the cover. I learned that in 1868 and '69; I lost 6 hives that winter, and I soon noticed in the spring that the hives which were the closest above the packing were in the worst condition, and those that were most open above the packing were in the best condition. I have not lost a hive wintering since '68 and '9. The moisture from the bees does not congeal until it comes in contact with a cold surface. Ofttimes in cold weather the frost will be an inch deep on top of the packing, but below it the packing is dry, and when there comes a warm, sunshiny day, it is well to take the covers off and let the top of the packing dry. I have examined bees mornings during all the coldest weather we have here, and have never found frost on any of the combs, although I have seen some in corners of hives and in the rabbets the frames hang on. J. S. HILL.

Mt. Healthy, O., Nov. 24, 1875.

[With this article we expected to give an engraving of friend Hill's apiary, but a mistake at the last minute delays it until our January No.]

ON page 303, read entrances [illegible] inches, instead of [illegible] inches.

WE forgot to say that Doolittle's nice wax was first run off with our wax-extractor.

WE have to-day, 1842 subscribers, but oh dear! what a tumble we suppose we have got to take when we announce next time.

## ADVERTISEMENTS.

Advertisements will be received at the rate of ten cents per line, Nonpareil space, each insertion, cash in advance; and we require that every Advertiser satisfies us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

MUTH'S ADVERTISEMENT.

HONEY JARS!

| | |
|---|---|
| One pound square jars, per gross | $6 [illegible] |
| Two " " " " | [illegible] |
| One " " " flint glass per gross | [illegible] |
| Two " " " " " " | 10 50 |
| Corks for 1 and 2 pound jars | 75 |
| Tin foil caps, per gross | 1 25 |
| Labels " " | 75 |
| A thousand labels address printed to order | 5 00 |
| One qt. fruit jars, Mason's patent, per gross | 17 00 |
| Labels for same, " " | 65 |
| A thousand labels address printed to order | 4 00 |
| Uncapping knives, as good as any, each | 50 |
| " " per dozen | 4 50 |
| Alsike clover seed, per bushel | 13 50 |
| " " " " peck | 3 50 |
| " " " " pound | 16 |
| Catnip seed, per pound | 6 50 |
| " " " ounce | 5 |

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Those whose names appear below, agree to furnish Italian Queens the coming season for $1.00 each, under the following conditions: No guarantee is to be assumed of purity, safe delivery, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind that he who sends the best queens, put up neatest and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use and imported queen moth-

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Miss A. Davis, Holt, Ingham Co., Mich. 5-12
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*Dr. J. P. H. Brown, Augusta, Ga. 9tf
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*J. M. C. Taylor, Lewiston, Fred. Co., Md. 7-1

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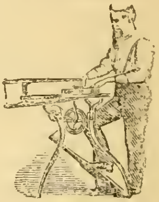

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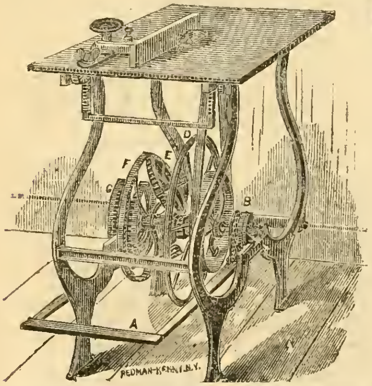

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